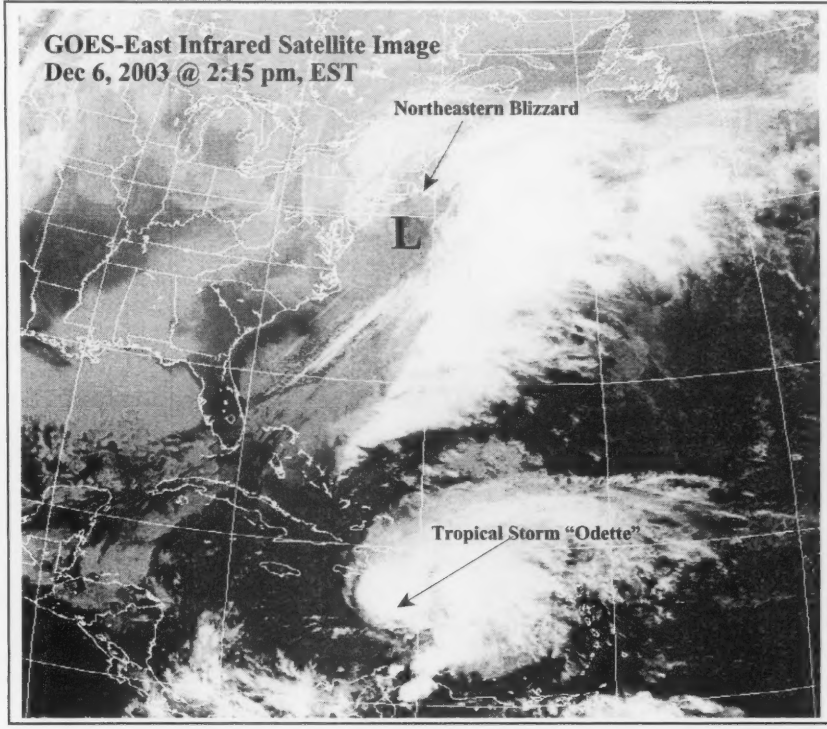
Volume 90, No. 49 http://www.usda.gov/oce/waob/jawf/wwcb.html December 9, 2003

WEEKLY WEATHER AND CROP BULLETIN

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Weather Service

U.S. DEPARTMENT OF AGRICULTURE
National Agricultural Statistics Service
and World Agricultural Outlook Board



Several firsts were captured in the satellite image shown here, as storms from opposite ends of the weather spectrum affected North America during the first week of December. Tropical Storm Odette became the first named tropical system to form in the Carribean Sea in December; at peak intensity, the storm packed sustained winds of 65 m.p.h., with higher gusts. Listed below are selected 24-hour Puerto Rican rainfall totals (in inches) through December 6, 6 p.m. (AST) courtesy of Odette:

Cayey.....6.90
Caguas.....5.00
Guayama....4.70
Gurabo.....3.43

Meanwhile, a potent winter storm dropped copious amounts of snow across the Mid-Atlantic and Northeast, establishing several December snowfall records. More information on the first nor'easter of the season is on page 5.

HIGHLIGHTS

November 30 - December 6, 2003

Highlights provided by USDA/WAOB

Wet conditions expanded slightly in the **West** to encompass **northern and central California** and much of the **Northwest**, but unfavorably dry conditions persisted for a third consecutive week across drought-affected areas of the **Great Basin**, **central and southern Rockies**, and **Southwest**. Weekly temperatures were above normal throughout the **West**, averaging as much as 14°F above normal across the **interior Northwest**. Meanwhile on the **Plains**, rainfall was confined to **eastern Kansas**, where a developing storm system produced showers and thunderstorms on December 2-3. Elsewhere, persistent dryness continued to adversely affect the **Plains'** winter

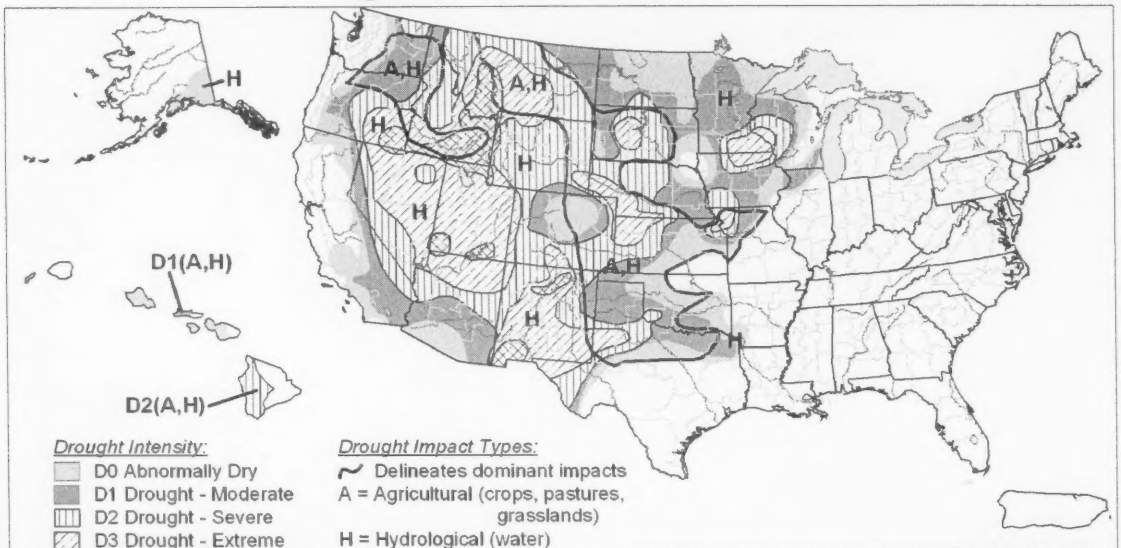
(Continued on page 3)

Contents

December 2 Drought Monitor & Total Precipitation Map 2
Temperature Departure Map 3
Extreme Maximum & Minimum Temperature Maps . 4
Weather Data for Mississippi and the Missouri Bootheel & **Selected Winter Storm Highlights** 5
National Weather Data for Selected Cities 6
November Weather and Crop Summary 9
November Minimum Temperature Map 11
November Precipitation & Temperature Maps . . 12
November Weather Data for Selected Cities . . . 13
National Agricultural Summary & Snow Cover Map 14
International Weather and Crop Summary 15
Subscription Information 20

U.S. Drought Monitor

December 2, 2003
Valid 8 a.m. EDT



Drought Intensity:
- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

Drought Impact Types:
- ~ Delineates dominant impacts
- A = Agricultural (crops, pastures, grasslands)
- H = Hydrological (water)
- (No type = Both impacts)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://drought.unl.edu/dm

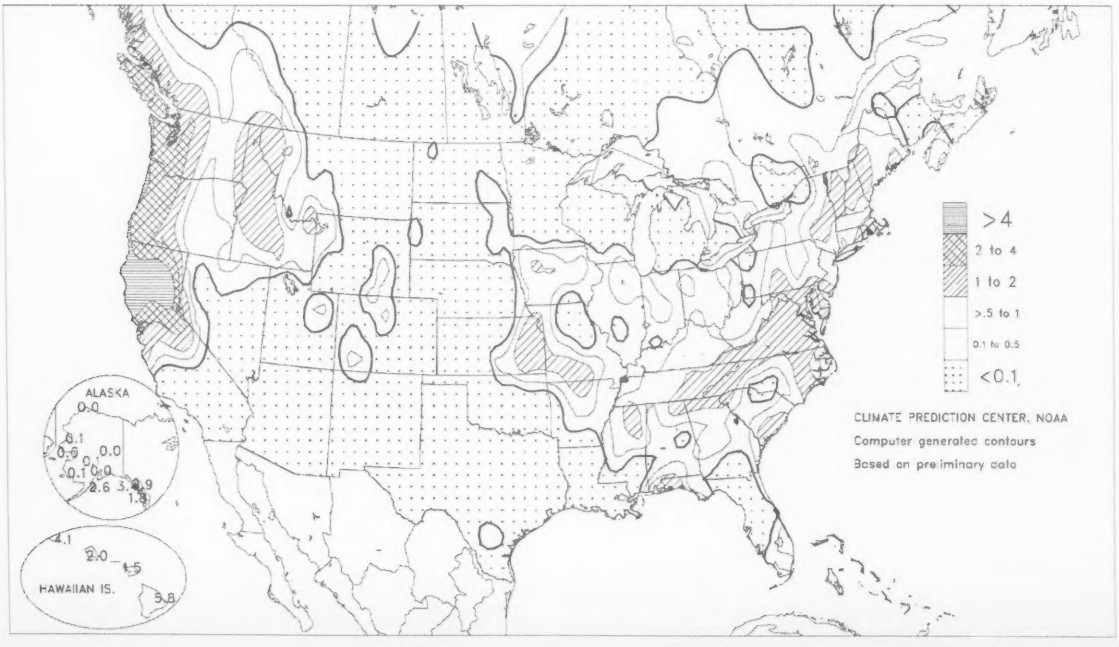
USDA National Drought Mitigation Center

Released Thursday, December 4, 2003

Authors: Douglas LeComte, CPC/NOAA
David Miskus, JAWF/CPC/NOAA

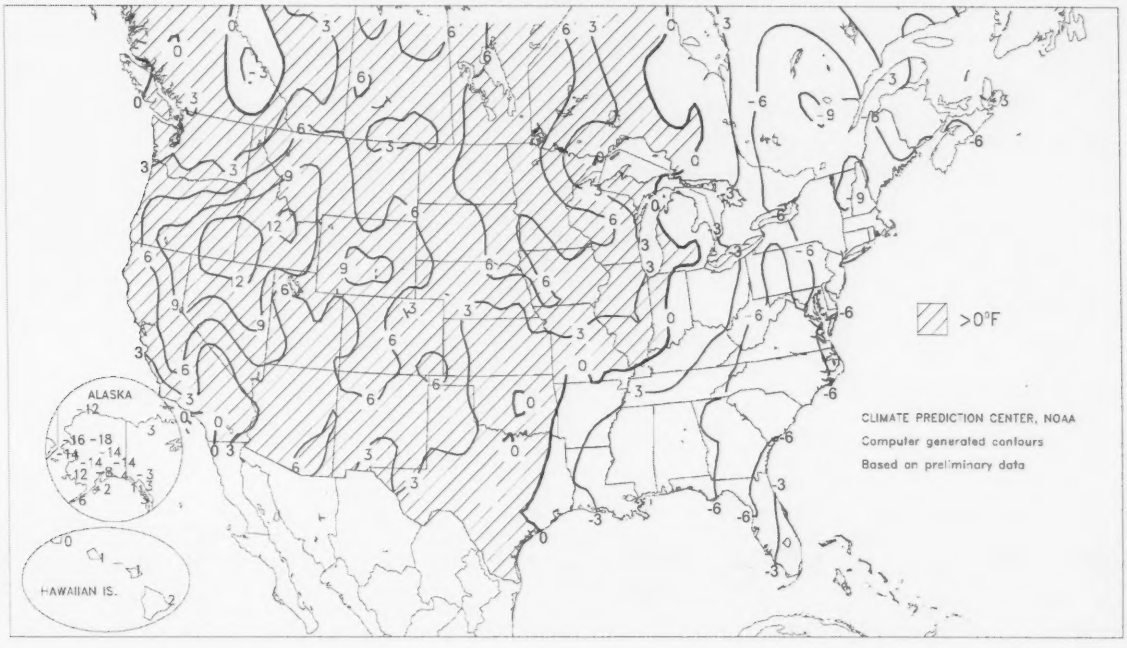
Total Precipitation (Inches)

NOV 30 - DEC 6, 2003



Departure of Average Temperature from Normal (°F)

NOV 30 - DEC 6, 2003



(Continued from front cover)

wheat crop. Wheat stress remained most significant on the **southern High Plains**, where temperatures (up to 6°F above normal) were high enough to support additional crop development, but growth was limited by soil moisture shortages. Farther east, dry weather returned to **Lower Michigan**, although wet fields continued to hamper final corn harvesting. Elsewhere in the **Midwest**, mid- to late-week snowfall in conjunction with an intensifying storm system briefly disrupted travel from **Iowa to Ohio**. Much heavier snow, accompanied by high winds, developed toward week's end from the **Mid-Atlantic States into the Northeast**, where temperatures averaged as much as 10°F below normal. In addition, some ice accumulations were briefly noted as far south as the **southern Mid-Atlantic region**. Cool weather (as much as 8°F below normal) also prevailed across the **South**, slowing the development of winter grains and cool-season pastures. However, dry weather for most of the week favored late-autumn fieldwork in the **southern Atlantic region**.

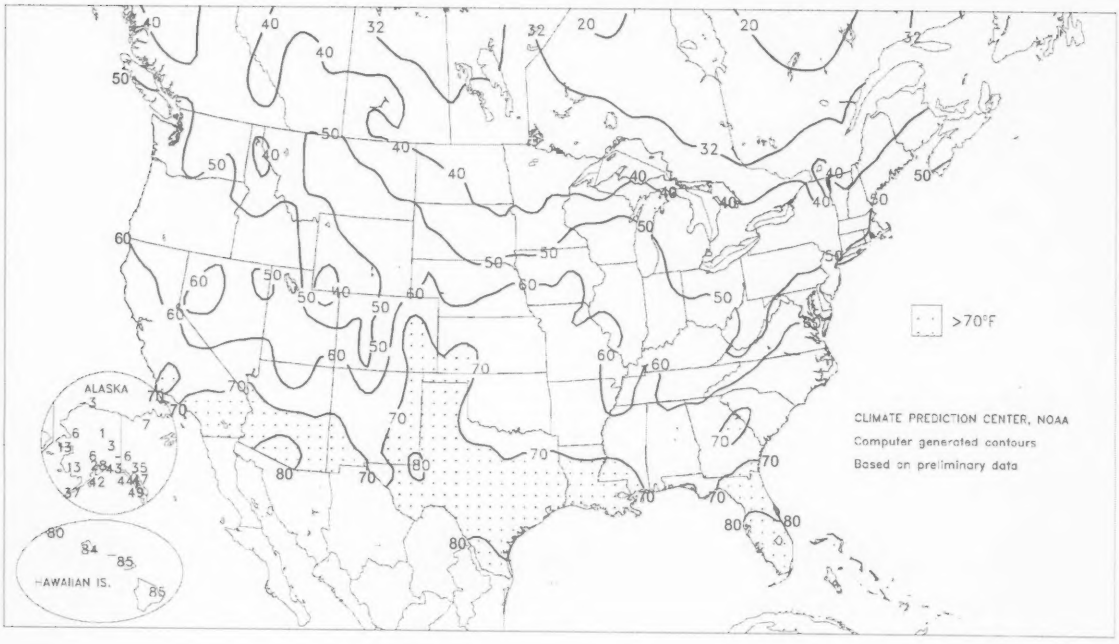
Mild, dry weather prevailed across the majority of the Nation, resulting in a smattering of daily-record highs. On the last day of November, record highs were established in locations such as **Roswell, NM** (81°F), and **Ashland, KS** (77°F). A day later in **Arizona**, record highs for December 1 included 79°F in **Douglas** and 75°F in **Safford**. Following briefly cooler weather, record warmth returned to parts of the **West** at week's end. On December 6, record highs were established in **Bakersfield, CA** (72°F), and **St. Johns, AZ** (71°F). Heavy precipitation also spread into the **Far West** at week's end, boosting December 1-7 rainfall to 2.57 inches in **Redding, CA**, and 2.41 inches in **Salem, OR.**

Precipitation developed in parts of the **Corn Belt** late December 2 and periodically continued into early December 6. The most significant stripe of **Midwestern** snow stretched from **Iowa to Ohio**. In **Iowa**, **Des Moines** netted 8.7 inches in a 4-day period ending December 5, while **Mansfield, OH**, collected 7.8 inches on December 5-6. Much more impressive snowfall totals were noted in the **Northeast**, where **Providence, RI** (17.0 inches from December 5-7), experienced its greatest December snowfall (previously, 12.0 inches on December 5-6, 1981). Meanwhile in **New York**, **Albany's** 18.0-inch total represented its second-earliest snowfall of 18 inches or greater, behind only 22.5 inches on November 24-25, 1971. Several locations posted consecutive daily-record snowfall totals, including **Newark, NJ** (8.0 and 8.5 inches on December 5-6), **Providence** (8.7 and 4.0 inches on December 6-7), and **Albany** (12.5 and 5.5 inches on December 6-7). Peak wind gusts reported on December 6 included 48 m.p.h. in **Boston, MA**, and 40 m.p.h. in **Providence, RI.** A day later, gusts along the **New England coast** reached 82 m.p.h. on **Mount Desert Rock, ME**, and 72 m.p.h. on the **Isles of Shoals, NH.**

The last day of November featured heavy snow in parts of **Alaska**, including 4.7 inches in **Anchorage** and a daily-record total of 4.8 inches in **Kotzebue**. Very cold, mostly dry weather prevailed across **mainland Alaska** thereafter, holding weekly temperatures 8 to 18°F below normal. On December 2-3, **Bettles, AK**, notched consecutive daily-record lows of -55 and -53°F. Heavy precipitation was confined to **southernmost Alaska**, where **Kodiak** (1.65 inches) collected a daily-record total on December 3. Meanwhile in **Hawaii**, a very active weather pattern continued, particularly across windward sections of the islands. On **Kauai**, **Lihue** netted a daily-record total of 3.41 inches on November 30, accounting for more than 70 percent of its monthly rainfall. **Hawaiian** weekly rainfall totals included 18.96 inches on **Kauai's Mount Waialeale**, 14.49 inches at the **Wilson Tunnel** on **Oahu**, and 11.47 inches in **West Wailuaiki, Maui**. The majority of the precipitation fell in a 72-hour period from December 3-6, when respective totals at the three locations reached 14.68, 11.20, and 10.71 inches.

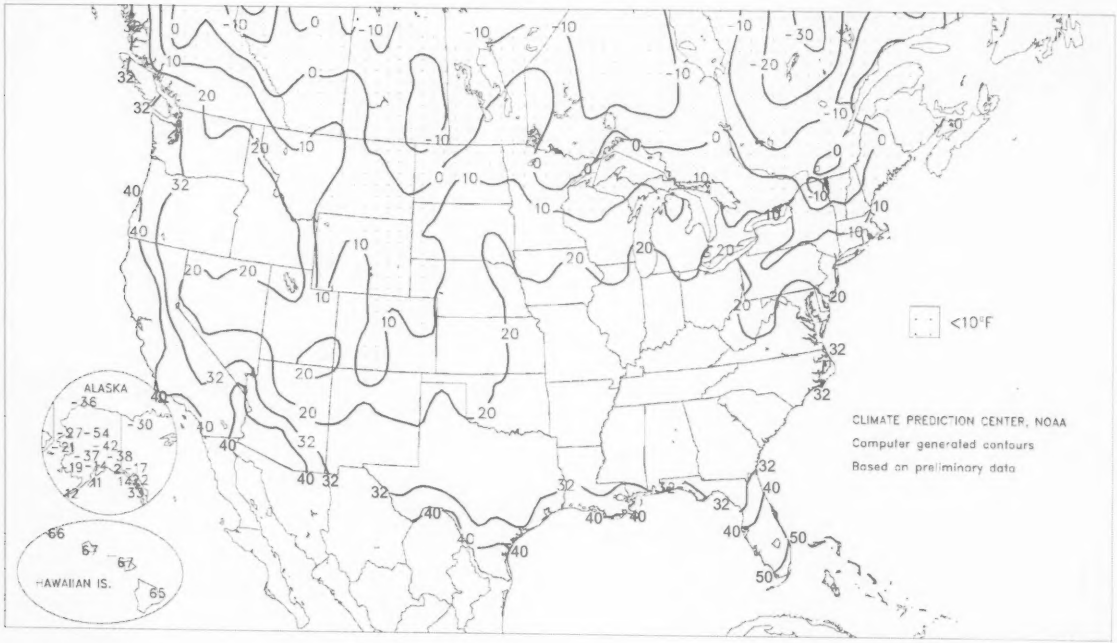
Extreme Maximum Temperature (°F)

NOV 30 - DEC 6, 2003



Extreme Minimum Temperature (°F)

NOV 30 - DEC 6, 2003



Weather Data for Mississippi and the Missouri Bootheel

Weather Data for the Week Ending December 6, 2003

Data provided by the Mississippi State Delta Research and Extension Center (DREC), the Southern Regional Climate Center (SRCC), and the University of Missouri.

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							4-INCH SOIL TEMP, °F		NUMBER OF DAYS			
																	TEMP. °F		PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
MS	INDIANOLA 1S	53	35	59	32	44	-	0.34	-	0.34	0.34	-	41.72	-	-	-	0	1	1	0
	INVERNESS 5E	53	36	59	29	45	-	0.25	-	0.25	0.25	-	38.79	-	53	35	0	1	1	0
	LYON	51	35	60	32	43	-	0.38	-	0.38	0.38	-	44.88	-	-	-	0	1	1	0
	MACON	54	35	62	30	44	-	0.47	-	0.31	0.47	-	54.25	-	52	46	0	2	2	0
	ONWARD	57	34	67	30	45	-	0.19	-	0.19	0.19	-	-	-	55	49	0	2	1	0
	PERTHSHIRE	52	34	60	31	43	-	0.20	-	0.20	0.20	-	44.92	-	-	-	0	2	1	0
	SCOTT	53	37	61	34	45	-	0.13	-	0.13	0.13	-	-	-	-	-	0	0	1	0
	SIDON	56	38	64	35	47	-	0.33	-	0.33	0.33	-	38.76	-	54	44	0	0	1	0
	STARKVILLE	54	34	62	27	44	-4	0.48	-0.65	0.41	0.48	49	55.62	108	52	46	0	4	2	0
	TUNICA 1W	51	34	59	29	42	-	0.36	-	0.36	0.36	-	-	-	-	-	0	3	1	0
	VANCE	52	34	57	31	43	-	0.39	-	0.39	0.39	-	-	-	-	-	0	3	1	0
	VERONA	54	34	61	30	44	-	0.66	-	0.64	0.66	-	52.92	-	51	43	0	3	2	1
	STONEVILLE [X]	54	35	61	32	45	-3	0.21	-1.05	0.21	0.21	19	42.09	86	54	44	0	1	1	0
MO	DELTA	47	34	56	28	40	-2	0.28	-0.75	0.19	0.28	31	41.95	97	44	40	0	2	3	0
	STEELE	49	36	59	32	42	-2	0.30	-0.88	0.27	0.30	29	49.93	107	46	41	0	1	3	0
	GLENNONVILLE	49	35	60	30	41	-2	0.26	-0.74	0.21	0.26	31	34.19	83	46	41	0	3	2	0
	PORTAGEVILLE LF	48	36	59	32	42	-2	0.25	-0.76	0.22	0.25	29	46.56	105	46	40	0	0	3	0
	CLARKTON	48	35	58	31	41	-2	0.28	-0.72	0.23	0.28	33	41.27	100	47	43	0	1	2	0
	CARDWELL	48	35	59	30	42	-2	0.24	-0.79	0.24	0.24	27	50.13	108	47	43	0	1	1	0
	CHARLESTON	48	35	57	30	41	0	0.23	-0.78	0.18	0.23	26	42.58	95	47	41	0	2	3	0
	PORTAGEVILLE DC	48	37	58	33	42	-2	0.28	-0.73	0.25	0.28	32	43.83	99	54	47	0	0	2	0

Compiled by USDA/OCE/WAOB's Stoneville Field Office.
[X] Based on 1971-2000 normals.
- Sufficient data not available.

Weather and Crop Summary: Temperatures were mostly below normal, especially nighttime lows. Several areas experienced a few days below 32°F. A cold front crossed the lower Mississippi Valley at midweek, depositing rainfall near one-half inch. Soils remained fairly moist, especially in tilled areas, benefiting winter wheat and pastures.

Selected Winter Storm Highlights, December 2-7, 2003

A double-barreled winter storm produced a stripe of snow across the Midwest beginning in Iowa late December 2 and continuing across the easternmost Corn Belt into early December 6. Much more impressive storm totals were noted from the northern Mid-Atlantic States into New England, where many locations observed two distinct periods of precipitation. The first round of Eastern moisture arrived on December 4-5, as a disturbance overran cold air trapped east of the Appalachians. Some ice accumulations were noted as far south as northeastern Georgia. That event was followed by a wind-driven Northeastern snowfall on December 5-7, triggered by the intensification of a coastal storm.

Storm-Total Snowfall (Inches)

Location	Total	Dates
Pinkham Notch, NH	52.0	December 6-7
Rangeley, ME	41.0	December 6-7
Underhill, VT	32.2	December 6-7
Concord, NH	22.5	December 6-7
Burlington, VT	18.2	December 6-7
Albany, NY	18.0	December 6-7
Providence, RI	17.0	December 5-7
Boston, MA	16.9	December 5-7
Newark, NJ	16.5	December 5-7
N.Y. Central Park	14.0	December 5-6
Portland, ME	13.7	December 6-7
New York (JFK), NY	12.7	December 5-7
Bridgeport, CT	11.0	December 5-6
Allentown, PA	9.0	December 5-6
Des Moines, IA	8.7	December 2-5
Dulles Airport, VA	7.8	December 4-6
Mansfield, OH	7.8	December 5-6
Pittsburgh, PA	6.9	December 5-6
Baltimore, MD	6.8	December 5-6
Ft. Wayne, IN	5.7	December 4-5
Atlantic City, NJ	5.0	December 5-6
Philadelphia, PA	4.8	December 5-6
Washington, DC	2.6	December 4-6

Peak Wind Gust (m.p.h.)

Location	Gust	Date
Mount Desert Rock, ME	82	December 6 and 7
Isles of Shoals, NH	72	December 7
Boston, MA	48	December 6
New York (JFK), NY	46	December 6
Atlantic City, NJ	43	December 5
Portland, ME	43	December 6 and 7
Providence, RI	40	December 6
Concord, NH	39	December 7
Newark, NJ	37	December 6

National Weather Data for Selected Cities

Weather Data for the Week Ending December 6, 2003

Data Provided by Climate Prediction Center (301-763-8000, Ext. 7503)

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP. °F		PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL	BIRMINGHAM	54	35	63	27	45	-3	0.26	-0.77	0.20	0.26	30	62.54	124	90	45	0	3	2	0
	HUNTSVILLE	51	33	58	27	42	-4	0.75	-0.56	0.49	0.75	67	53.32	101	76	59	0	4	3	0
	MOBILE	62	40	69	31	51	-3	0.54	-0.63	0.54	0.54	54	68.24	109	80	54	0	1	1	1
	MONTGOMERY	57	34	69	26	45	-6	0.57	-0.65	0.49	0.57	55	47.42	93	94	51	0	3	2	0
AK	ANCHORAGE	19	2	28	-14	10	-9	0.00	-0.22	0.00	0.00	0	14.57	96	86	72	0	7	0	0
	BARROW	-9	-29	-3	-36	-19	-11	0.00	0.00	0.00	0.00	0	5.73	142	79	75	0	7	0	0
	FAIRBANKS	-9	-27	3	-42	-18	-14	0.00	-0.14	0.00	0.00	0	13.18	136	80	76	0	7	0	0
	JUNEAU	38	28	47	22	33	3	0.89	-0.28	0.45	0.72	72	49.03	91	91	75	0	7	3	0
	KODIAK	36	23	42	11	29	-3	2.56	0.99	1.72	2.56	190	77.62	112	71	62	0	5	3	2
	NOME	6	-12	13	-21	-3	-14	0.00	-0.25	0.00	0.00	0	16.76	106	72	61	0	7	0	0
AZ	FLAGSTAFF	56	19	59	13	37	5	0.00	-0.40	0.00	0.00	0	16.99	79	72	16	0	7	0	0
	PHOENIX	78	49	80	44	63	7	0.00	-0.17	0.00	0.00	0	6.65	89	43	22	0	0	0	0
	TUCSON	77	45	81	41	61	7	0.00	-0.17	0.00	0.00	0	9.93	88	40	20	0	0	0	0
	YUMA	76	49	78	46	62	3	0.00	-0.05	0.00	0.00	0	3.56	135	48	32	0	0	0	0
AR	FORT SMITH	53	34	65	27	44	0	0.00	-0.97	0.00	0.00	0	26.41	64	83	47	0	2	0	0
	LITTLE ROCK	53	35	64	30	44	-2	0.31	-0.95	0.31	0.31	29	35.87	76	88	42	0	2	1	0
CA	BAKERSFIELD	68	45	74	40	56	7	0.00	-0.14	0.00	0.00	0	4.15	71	65	53	0	0	0	0
	FRESNO	61	46	69	42	53	6	0.08	-0.17	0.04	0.08	38	6.30	62	88	74	0	0	2	0
	LOS ANGELES	66	49	72	46	58	-1	0.02	-0.30	0.01	0.02	7	9.59	82	98	72	0	0	2	0
	REDDING	56	48	63	41	52	5	2.94	2.00	1.05	2.62	328	27.69	93	99	91	0	0	6	3
	SACRAMENTO	60	49	64	46	55	7	0.85	0.35	0.43	0.79	184	11.22	71	99	73	0	0	6	0
	SAN DIEGO	65	50	68	47	57	-2	0.00	-0.22	0.00	0.00	0	8.59	89	94	71	0	0	0	0
	SAN FRANCISCO	59	51	64	46	55	4	1.86	1.28	0.80	1.06	212	13.39	76	97	89	0	0	5	1
	STOCKTON	59	47	65	43	53	6	0.40	0.01	0.12	0.31	94	6.72	54	10	90	0	0	7	0
CO	ALAMOSA	49	10	56	3	30	9	0.00	-0.07	0.00	0.00	0	6.20	89	77	44	0	7	0	0
	CO SPRINGS	51	25	65	15	38	7	0.00	-0.06	0.00	0.00	0	12.34	73	65	27	0	6	0	0
	DENVER INTL	51	20	62	7	36	5	0.00	-0.06	0.00	0.00	0	13.80	103	75	29	0	7	0	0
	GRAND JUNCTION	46	24	49	19	35	4	0.00	-0.10	0.00	0.00	0	6.04	71	76	55	0	7	0	0
	PUEBLO	58	21	72	15	40	7	0.00	-0.08	0.00	0.00	0	11.52	95	59	36	0	6	0	0
CT	BRIDGEPORT	38	25	51	18	32	-7	0.19	-0.58	0.10	0.19	29	43.66	106	69	46	0	5	2	0
	HARTFORD	36	21	50	13	29	-6	0.04	-0.79	0.02	0.04	6	51.29	119	72	52	0	6	2	0
DC	WASHINGTON	42	32	55	28	37	-6	1.16	0.49	0.78	1.16	204	56.26	153	73	48	0	5	3	1
DE	WILMINGTON	41	27	53	21	34	-6	0.69	-0.07	0.51	0.69	106	51.26	128	81	46	0	5	2	1
FL	DAYTONA BEACH	71	50	80	41	61	-2	0.11	-0.48	0.09	0.11	22	55.89	119	90	50	0	0	2	0
	JACKSONVILLE	65	40	74	28	52	-5	0.32	-0.23	0.29	0.32	68	43.80	87	93	52	0	2	2	0
	KEY WEST	77	67	81	58	72	-1	0.22	-0.23	0.20	0.22	58	37.34	100	82	66	0	0	2	0
	MIAMI	78	63	84	51	70	-2	0.00	-0.55	0.00	0.00	0	68.54	121	88	60	0	0	0	0
	ORLANDO	72	50	81	44	61	-4	0.01	-0.53	0.01	0.01	2	49.31	106	90	54	0	0	1	0
	PENSACOLA	63	42	71	32	52	-4	0.65	-0.24	0.64	0.65	86	61.16	100	87	52	0	1	2	1
	TALLAHASSEE	63	36	70	26	49	-7	0.03	-0.81	0.03	0.03	4	63.44	106	87	48	0	3	1	0
	TAMPA	72	49	81	40	61	-4	0.00	-0.51	0.00	0.00	0	50.82	118	88	49	0	0	0	0
	WEST PALM	77	59	83	50	68	-2	0.64	-0.30	0.60	0.64	81	62.25	105	86	56	0	0	2	1
GA	ATHENS	53	32	70	27	43	-5	0.51	-0.29	0.37	0.51	74	48.64	109	74	52	0	4	2	0
	ATLANTA	50	34	62	29	42	-6	0.35	-0.55	0.20	0.35	45	50.68	108	85	60	0	2	3	0
	AUGUSTA	55	29	70	22	42	-8	0.43	-0.14	0.36	0.43	88	51.47	123	94	47	0	5	2	0
	COLUMBUS	57	36	70	28	47	-5	0.84	-0.16	0.43	0.84	98	54.53	121	90	42	0	2	3	0
	MACON	58	32	72	24	45	-5	0.66	-0.17	0.63	0.66	93	53.94	129	93	46	0	4	2	1
	SAVANNAH	59	37	68	28	48	-6	0.44	-0.06	0.43	0.44	102	45.30	96	93	50	0	1	2	0
HI	HILO	81	69	85	65	75	2	5.76	2.69	2.87	2.89	111	84.01	71	94	88	0	0	6	3
	HONOLULU	82	72	84	67	77	1	1.94	1.37	1.37	1.92	384	9.83	62	86	81	0	0	5	1
	KAHULUI	80	70	85	67	75	1	1.52	0.93	0.83	1.49	298	11.96	74	93	89	0	0	6	1
	LIHUE	78	70	80	66	74	0	4.10	3.04	2.35	3.31	368	36.04	101	92	86	0	0	7	2
ID	BOISE	54	39	58	28	46	13	0.19	-0.14	0.10	0.09	32	8.88	80	85	59	0	1	2	0
	LEWISTON	47	35	51	25	41	5	0.62	0.38	0.18	0.57	271	12.86	108	95	78	0	2	7	0
	POCATELLO	48	30	53	23	39	11	0.60	0.35	0.40	0.20	95	6.96	59	84	71	0	5	4	0
IL	CHICAGO/O'HARE	41	30	54	23	36	4	0.47	-0.16	0.29	0.47	87	30.58	89	73	51	0	5	2	0
	MOLINE	43	29	60	23	36	5	0.28	-0.27	0.24	0.28	60	29.35	81	76	54	0	6	2	0
	PEORIA	43	30	57	27	37	4	0.28	-0.38	0.15	0.28	50	29.89	87	80	51	0	7	3	0
	ROCKFORD	41	27	55	17	34	5	0.36	-0.20	0.21	0.36	77	22.87	65	80	54	0	6	2	0
	SPRINGFIELD	43	32	58	27	38	3	0.20	-0.45	0.14	0.19	35	33.89	101	75	57	0	4	4	0
IN	EVANSVILLE	48	35	58	29	41	2	0.03	-0.92	0.02	0.03	4	39.29	95	77	57	0	3	2	0
	FORT WAYNE	38	26	49	21	32	-1	0.37	-0.32	0.34	0.37	63	42.23	123	86	61	0	6	2	0
	INDIANAPOLIS	42	31	53	23	36	0	0.52	-0.26	0.31	0.52	78	50.58	131	78	55	0	3	2	0
	SOUTH BEND	41	28	52	21	34	1	0.28	-0.49	0.22	0.28	42	33.31	89	74	58	0	6	3	0
IA	BURLINGTON	43	30	58	24	37	5	0.29	-0.28	0.19	0.29	60	30.09	83	80	53	0	5	2	0
	CEDAR RAPIDS	40	25	59	21	33	5	0.29	-0.13	0.15	0.29	81	29.73	92	88	53	0	7	3	0
	DES MOINES	41	28	64	24	35	5	0.45	0.10	0.28	0.45	150	33.18	98	82	61	0	7	4	0
	DUBUQUE	39	27	56	20	33	6	0.25	-0.22	0.13	0.25	63	27.42	80	80	55	0	7	2	0
	SIOUX CITY	39	23	56	19	31	4	0.16	-0.02	0.09	0.16	107	25.97	102	83	59	0	7	3	0
	WATERLOO	40	23	61	19	31	4	0.20	-0.13	0.12	0.20	71	27.46	85	80	54	0	7	3	0
KS	CONCORDIA	42	29	64	16	35	1	0.00	-0.22	0.00	0.00	0	23.79	86	69	58	0	5	0	0
	DODGE CITY	53	24	73	14	38	2	0.00	-0.17	0.00	0.00	0	23.44	108	74	30	0	6	0	0
	GOODLAND	49	21	65	11	35	3	0.00	-0.09	0.00	0.00	0	13.23	68	66	41	0	7	0	0
	TOPEKA	45	32	68	27	38	3	1.27	0.88	0.97	1.27	385	28.40	82	78	58	0	4	3	1

Based on 1971-2000 normals

*** Not Available

Weather Data for the Week Ending December 6, 2003

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP. °F		PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	WICHITA	47	30	64	17	39	2	0.21	-0.12	0.21	0.21	75	31.93	109	72	55	0	2	1	0
KY	JACKSON	46	31	57	27	39	-3	0.90	-0.14	0.63	0.90	101	52.32	114	76	51	0	5	3	1
	LEXINGTON	45	31	55	25	38	-2	0.48	-0.43	0.39	0.48	62	50.13	118	80	67	0	3	2	0
	LOUISVILLE	50	36	59	31	43	1	0.25	-0.65	0.13	0.25	32	47.44	114	71	46	0	1	3	0
	PADUCAH	48	33	59	27	41	0	0.28	-0.87	0.17	0.28	29	46.13	101	91	51	0	3	3	0
LA	BATON ROUGE	63	38	74	30	51	-4	0.00	-1.16	0.00	0.00	0	40.65	69	96	47	0	2	0	0
	LAKE CHARLES	68	44	77	38	56	0	0.03	-1.01	0.01	0.02	2	40.54	76	95	46	0	0	3	0
	NEW ORLEANS	64	46	78	38	55	-2	0.01	-1.25	0.01	0.01	1	64.38	107	83	62	0	0	1	0
	SHREVEPORT	62	37	70	30	49	-2	0.00	-1.05	0.00	0.00	0	33.06	69	86	43	0	2	0	0
ME	CARIBOU	23	10	37	2	17	-5	0.12	-0.59	0.12	0.12	20	36.74	105	84	64	0	7	1	0
	PORTLAND	33	18	49	8	25	-7	0.23	-0.77	0.23	0.23	27	34.16	80	74	44	0	6	1	0
MD	BALTIMORE	42	28	55	20	35	-5	1.20	0.46	0.88	1.20	190	59.20	151	73	50	0	5	3	1
MA	BOSTON	38	24	50	16	31	-8	0.68	-0.17	0.65	0.68	93	40.12	101	73	48	0	5	3	1
	WORCESTER	32	18	44	10	25	-8	0.00	-0.86	0.00	0.00	0	44.85	98	83	48	0	6	0	0
MI	ALPENA	35	15	44	4	25	-3	0.16	-0.25	0.11	0.16	46	23.31	87	93	63	0	7	3	0
	GRAND RAPIDS	41	26	50	21	33	1	0.00	-0.74	0.00	0.00	0	32.08	92	78	46	0	6	0	0
	HOUGHTON LAKE	36	17	44	9	27	-1	0.01	-0.41	0.01	0.00	0	23.49	87	86	58	0	7	1	0
	LANSING	40	23	50	15	32	1	0.00	-0.59	0.00	0.00	0	23.99	80	81	50	0	6	0	0
	MUSKEGON	42	27	51	18	34	2	0.00	-0.67	0.00	0.00	0	26.47	86	74	48	0	5	0	0
	TRAVERSE CITY	38	19	46	14	29	-2	0.06	-0.52	0.06	0.00	0	25.78	82	89	49	0	7	1	0
MN	DULUTH	31	14	37	2	22	3	0.02	-0.29	0.02	0.00	0	24.56	81	82	63	0	7	1	0
	INT'L FALLS	30	6	35	-7	18	4	0.01	-0.19	0.01	0.01	6	16.71	71	88	55	0	7	1	0
	MINNEAPOLIS	35	26	45	17	31	7	0.08	-0.20	0.06	0.08	35	22.22	78	81	59	0	7	2	0
	ROCHESTER	37	23	50	16	30	8	0.10	-0.21	0.09	0.10	38	22.49	73	88	63	0	7	2	0
	ST. CLOUD	32	21	41	7	27	7	0.03	-0.15	0.03	0.03	20	24.55	92	89	63	0	7	1	0
MS	JACKSON	59	34	71	29	46	-4	0.28	-0.94	0.18	0.28	27	55.82	108	94	50	0	2	2	0
	MERIDIAN	58	33	68	27	45	-7	0.13	-1.09	0.08	0.13	12	67.86	125	93	56	0	4	2	0
	TUPELO	53	34	60	28	43	-3	0.94	-0.44	0.91	0.94	80	66.50	131	85	51	0	4	2	1
MO	COLUMBIA	43	32	60	27	38	2	0.17	-0.53	0.12	0.17	28	36.37	95	85	58	0	4	2	0
	KANSAS CITY	44	33	64	27	39	4	0.61	0.16	0.36	0.61	156	26.39	72	81	57	0	2	2	0
	SAINT LOUIS	46	37	64	29	42	4	0.28	-0.51	0.10	0.28	42	43.99	120	67	58	0	1	3	0
	SPRINGFIELD	45	31	62	27	38	-1	0.90	-0.06	0.90	0.90	111	39.42	93	77	58	0	5	1	1
MT	BILLINGS	47	23	62	11	35	7	0.13	0.01	0.08	0.13	130	9.13	64	83	46	0	7	2	0
	BUTTE	42	22	46	8	32	12	0.02	-0.09	0.01	0.02	22	9.44	76	87	49	0	7	2	0
	GLASGOW	35	16	42	4	25	5	0.02	-0.04	0.02	0.02	40	9.95	91	88	73	0	7	1	0
	GREAT FALLS	49	24	59	15	36	9	0.02	-0.09	0.02	0.02	22	10.14	71	84	39	0	5	1	0
	HAVRE	42	18	58	13	30	8	0.01	-0.07	0.01	0.01	14	9.58	87	83	65	0	7	1	0
	KALISPELL	36	23	43	14	29	3	0.37	-0.01	0.13	0.37	112	11.51	72	89	74	0	7	5	0
	MISSOULA	40	27	46	17	34	8	0.31	0.07	0.14	0.31	148	13.49	105	85	74	0	7	5	0
NE	GRAND ISLAND	41	25	62	14	33	4	0.00	-0.20	0.00	0.00	0	16.45	65	73	60	0	7	0	0
	LINCOLN	41	26	65	18	33	3	0.10	-0.15	0.08	0.10	48	25.67	93	80	58	0	7	3	0
	NORFOLK	39	26	59	21	33	6	0.09	-0.11	0.04	0.09	53	22.10	84	79	61	0	7	3	0
	NORTH PLATTE	44	19	56	11	32	4	0.00	-0.09	0.00	0.00	0	18.33	95	84	36	0	7	0	0
	OMAHA	40	27	63	24	33	3	0.37	0.08	0.24	0.37	154	22.88	77	80	61	0	7	3	0
	SCOTTSBLUFF	48	22	56	11	35	7	0.04	-0.10	0.04	0.04	33	9.39	59	87	59	0	7	1	0
	VALENTINE	41	20	51	14	31	4	0.00	-0.09	0.00	0.00	0	15.22	79	81	48	0	7	0	0
NV	ELY	51	26	54	14	39	11	0.02	-0.06	0.02	0.02	29	7.42	78	64	31	0	4	1	0
	LAS VEGAS	64	43	66	40	53	4	0.00	-0.06	0.00	0.00	0	5.92	143	42	30	0	0	0	0
	RENO	57	35	63	26	46	10	0.02	-0.17	0.02	0.02	12	3.38	50	78	59	0	3	1	0
	WINNEMUCCA	53	32	60	23	42	10	0.00	-0.17	0.00	0.00	0	6.49	85	88	65	0	4	0	0
NH	CONCORD	33	15	48	2	24	-7	0.54	-0.17	0.47	0.54	90	39.73	113	81	49	0	6	2	0
NJ	NEWARK	39	26	53	20	33	-7	0.92	0.08	0.49	0.92	130	52.22	120	70	51	0	5	4	0
NM	ALBUQUERQUE	57	33	64	29	45	7	0.00	-0.08	0.00	0.00	0	6.26	69	51	24	0	5	0	0
NY	ALBANY	32	19	45	11	25	-8	0.27	-0.38	0.24	0.27	48	41.14	114	83	60	0	6	2	0
	BINGHAMTON	31	17	42	11	24	-7	0.23	-0.53	0.14	0.23	35	40.99	113	85	71	0	7	3	0
	BUFFALO	36	23	47	16	30	-4	0.14	-0.78	0.10	0.13	16	33.47	89	86	56	0	6	3	0
	ROCHESTER	36	21	48	12	28	-5	0.35	-0.31	0.27	0.35	61	29.60	93	84	63	0	7	2	0
	SYRACUSE	33	18	45	10	26	-7	0.27	-0.56	0.15	0.27	38	34.79	92	88	58	0	7	4	0
NC	ASHEVILLE	44	29	58	22	36	-6	0.56	-0.23	0.45	0.56	84	57.43	130	77	60	0	7	2	0
	CHARLOTTE	51	31	70	25	41	-6	0.21	-0.46	0.21	0.21	37	60.47	148	76	40	0	4	1	0
	GREENSBORO	47	30	62	27	39	-5	0.37	-0.30	0.36	0.37	65	58.88	145	72	40	0	6	2	0
	HATTERAS	54	43	61	38	49	-4	0.79	-0.14	0.63	0.79	99	69.79	129	75	52	0	0	2	1
	RALEIGH	49	31	67	27	40	-6	0.86	0.22	0.85	0.86	156	46.29	114	77	51	0	5	2	1
	WILMINGTON	55	35	67	28	45	-7	0.50	-0.33	0.50	0.50	70	59.33	110	90	47	0	3	1	1
ND	BISMARCK	36	20	44	16	28	8	0.01	-0.08	0.01	0.01	13	13.31	81	78	57	0	7	1	0
	DICKINSON	38	14	48	0	26	4	0.00	-0.08	0.00	0.00	0	12.98	81	90	55	0	7	0	0
	FARGO	32	19	37	10	26	9	0.10	-0.01	0.10	0.10	111	17.42	84	85	63	0	7	1	0
	GRAND FORKS	30	15	34	5	23	7	0.06	-0.05	0.05	0.06	67	17.17	90	92	69	0	7	2	0
	JAMESTOWN	32	18	40	9	25	7	0.09	0.01	0.09	0.09	129	14.05	78	90	63	0	7	1	0
	WILLISTON	33	10	40	-9	22	5	0.04	-0.09	0.04	0.04	36	14.10	103	87	70	0	7	1	0
OH	AKRON-CANTON	38	27	46	23	33	-2	0.69	-0.04	0.66	0.69	110	48.87	135	77	61	0	7	2	1
	CINCINNATI	43	31	54	20	37	-2	0.22	-0.55	0.16	0.22	33	42.68	107	74	58	0	3	2	0
	CLEVELAND	40	30	48	25	35	0	0.86	0.05	0.76	0.86	125	39.36	109	73	51	0	4	2	1
	COLUMBUS	40	30	50	25	35	-2	0.54	-0.20	0.50	0.54	86	46.85	129	75	59	0	5	2	1
	DAYTON	40	29	50	24	35	-1	0.41	-0.33	0.29	0.41	64	41.59	112	79	56	0	7	2	0
	MANSFIELD	37	25	45	18	31	-3	0.27	-0.56	0.19	0.27	38	38.71	95	84	57	0	7	2	0

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STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP. °F		PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL IN. SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	TOLEDO	40	26	48	19	33	0	0.48	-0.18	0.47	0.48	84	34.64	111	82	61	0	6	2	0
	YOUNGSTOWN	37	25	46	19	31	-3	0.53	-0.23	0.44	0.53	82	43.89	123	84	64	0	7	3	0
OK	OKLAHOMA CITY	53	33	64	19	43	0	0.00	-0.41	0.00	0.00	0	20.17	59	75	39	0	3	0	0
	TULSA	51	37	64	31	44	1	0.09	-0.59	0.05	0.09	16	39.07	96	66	49	0	1	2	0
OR	ASTORIA	52	41	56	33	46	2	2.50	-0.04	1.43	2.47	114	60.95	103	93	76	0	0	7	1
	BURNS	46	34	52	27	40	13	0.39	0.11	0.21	0.31	129	8.49	89	96	90	0	3	5	0
	EUGENE	54	42	58	34	48	7	1.51	-0.56	0.53	1.42	80	32.05	72	97	90	0	0	7	1
	MEDFORD	55	43	61	39	49	10	0.97	0.25	0.72	0.90	145	16.13	100	98	75	0	0	6	1
	PENDLETON	44	33	57	26	38	2	0.48	0.13	0.15	0.33	110	10.25	89	96	87	0	3	6	0
	PORTLAND	52	39	56	36	45	3	1.74	0.35	0.78	1.65	139	32.27	99	91	76	0	0	7	1
	SALEM	53	41	56	35	47	5	1.98	0.38	0.49	1.85	135	33.21	95	96	83	0	0	7	0
PA	ALLENTOWN	38	23	52	16	31	-5	0.42	-0.39	0.22	0.42	61	52.60	124	79	51	0	6	3	0
	ERIE	40	28	49	24	34	-3	0.02	-0.91	0.02	0.02	3	38.21	96	71	50	0	6	1	0
	MIDDLETOWN	39	28	51	22	34	-4	0.79	-0.03	0.66	0.79	113	52.14	137	88	49	0	5	2	1
	PHILADELPHIA	41	28	53	21	34	-7	0.53	-0.22	0.48	0.53	83	43.07	109	70	53	0	5	2	0
	PITTSBURGH	38	27	47	22	32	-4	0.45	-0.25	0.44	0.45	75	38.91	109	89	63	0	7	2	0
	WILKES-BARRE	35	21	46	14	28	-7	0.41	-0.25	0.28	0.41	73	46.44	131	85	55	0	7	3	0
	WILLIAMSPORT	37	23	49	16	30	-5	0.22	-0.56	0.19	0.22	33	48.81	124	87	56	0	6	2	0
RI	PROVIDENCE	40	24	53	16	32	-6	0.91	-0.04	0.67	0.91	112	44.79	104	66	46	0	6	2	1
SC	BEAUFORT	58	38	67	29	48	-5	2.03	1.45	1.46	2.03	406	48.12	102	89	45	0	1	2	2
	CHARLESTON	57	35	67	30	46	-7	0.84	0.21	0.84	0.84	156	50.01	102	82	49	0	3	1	1
	COLUMBIA	54	32	69	27	43	-7	0.46	-0.18	0.41	0.46	84	53.39	117	86	50	0	4	2	0
	GREENVILLE	51	33	67	29	42	-4	0.40	-0.43	0.39	0.40	56	61.03	130	70	43	0	3	2	0
SD	ABERDEEN	35	21	42	14	28	7	0.10	0.04	0.10	0.10	200	21.06	106	86	67	0	7	1	0
	HURON	34	25	42	22	30	7	0.09	0.00	0.08	0.09	129	16.64	81	90	69	0	7	2	0
	RAPID CITY	43	23	56	12	33	6	0.00	-0.06	0.00	0.00	0	10.86	67	79	52	0	7	0	0
	SIOUX FALLS	35	23	47	15	29	6	0.14	-0.02	0.10	0.14	108	21.13	87	89	71	0	7	3	0
TN	BRISTOL	46	28	53	21	37	-3	1.11	0.33	0.94	1.11	166	63.60	165	87	50	0	5	2	1
	CHATTANOOGA	49	32	59	26	41	-4	1.43	0.28	1.08	1.43	146	60.30	119	87	53	0	3	3	1
	KNOXVILLE	48	32	56	27	40	-4	0.63	-0.39	0.45	0.63	72	55.96	125	80	51	0	3	3	0
	MEMPHIS	51	37	59	33	44	-3	0.51	-0.96	0.46	0.51	40	49.50	99	83	45	0	0	2	0
	NASHVILLE	50	34	59	27	42	-2	0.49	-0.62	0.24	0.49	52	53.98	121	81	46	0	3	3	0
TX	ABILENE	62	37	70	19	50	2	0.00	-0.24	0.00	0.00	0	19.09	84	72	42	0	2	0	0
	AMARILLO	57	29	74	20	43	4	0.01	-0.07	0.01	0.01	14	13.35	70	74	31	0	5	1	0
	AUSTIN	69	38	77	27	53	-1	0.00	-0.52	0.00	0.00	0	20.17	64	77	47	0	2	0	0
	BEAUMONT	66	43	76	34	54	-2	0.00	-1.13	0.00	0.00	0	55.76	100	97	49	0	0	0	0
	BROWNSVILLE	76	55	82	43	66	3	0.01	-0.27	0.01	0.01	4	33.53	126	96	56	0	0	1	0
	CORPUS CHRISTI	71	52	79	39	62	2	0.07	-0.29	0.07	0.07	23	28.13	91	83	52	0	0	1	0
	DEL RIO	69	46	75	39	57	3	0.04	-0.13	0.04	0.04	29	24.02	136	84	54	0	0	1	0
	EL PASO	63	35	70	29	49	2	0.00	-0.15	0.00	0.00	0	4.21	48	57	27	0	2	0	0
	FORT WORTH	60	39	69	26	50	1	0.00	-0.53	0.00	0.00	0	23.64	72	84	44	0	1	0	0
	GALVESTON	66	54	75	41	60	0	0.00	-0.82	0.00	0.00	0	33.25	81	87	55	0	0	0	0
	HOUSTON	67	45	75	33	56	0	0.00	-0.85	0.00	0.00	0	44.28	99	93	50	0	0	0	0
	LUBBOCK	62	33	77	24	48	6	0.00	-0.14	0.00	0.00	0	8.80	49	64	33	0	3	0	0
	MIDLAND	63	34	74	22	48	1	0.00	-0.13	0.00	0.00	0	10.63	75	65	39	0	2	0	0
	SAN ANGELO	64	36	71	21	50	2	0.00	-0.19	0.00	0.00	0	19.19	95	81	45	0	2	0	0
	SAN ANTONIO	68	44	75	28	56	1	0.00	-0.44	0.00	0.00	0	28.36	90	82	41	0	1	0	0
	VICTORIA	70	44	77	30	57	-1	0.01	-0.54	0.01	0.01	2	37.01	97	97	55	0	1	1	0
	WACO	64	40	72	28	52	1	0.00	-0.63	0.00	0.00	0	27.64	89	84	50	0	1	0	0
	WICHITA FALLS	60	33	70	20	47	1	0.00	-0.35	0.00	0.00	0	19.00	69	80	45	0	3	0	0
UT	SALT LAKE CITY	48	31	55	25	40	7	0.00	-0.28	0.00	0.00	0	12.20	79	86	55	0	5	0	0
VT	BURLINGTON	28	15	41	4	22	-8	0.17	-0.41	0.12	0.17	35	31.56	92	82	60	0	6	3	0
VA	LYNCHBURG	44	28	59	22	36	-5	0.91	0.19	0.72	0.91	149	56.73	139	71	45	0	6	2	1
	NORFOLK	52	37	65	31	44	-4	0.94	0.33	0.55	0.94	181	56.55	131	69	44	0	3	3	1
	RICHMOND	46	30	61	24	38	-6	1.13	0.48	0.65	1.13	205	58.97	143	73	56	0	5	3	1
	ROANOKE	43	31	59	28	37	-5	1.00	0.32	0.85	1.00	172	52.57	131	65	52	0	6	3	1
	WASH/DULLES	40	28	54	24	34	-6	1.19	0.48	1.01	1.19	195	61.34	156	72	53	0	6	3	1
WA	OLYMPIA	49	35	55	29	42	3	1.25	-0.69	0.35	1.23	74	47.99	108	98	89	0	3	6	0
	QUILLAYUTE	48	35	52	29	42	0	4.47	0.98	1.53	4.47	150	85.84	95	93	81	0	1	5	3
	SEATTLE-TACOMA	49	39	55	36	44	2	1.12	-0.27	0.43	1.12	94	38.73	119	92	71	0	0	0	0
	SPOKANE	38	28	45	21	33	4	1.37	0.82	0.79	1.37	291	13.68	92	99	76	0	6	5	1
	YAKIMA	43	28	50	24	36	5	0.70	0.40	0.19	0.70	269	5.79	81	97	78	0	5	6	0
WV	BECKLEY	37	26	46	20	31	-7	0.46	-0.23	0.23	0.46	78	49.94	128	79	61	0	7	3	0
	CHARLESTON	44	30	55	23	37	-4	0.44	-0.39	0.34	0.44	62	58.61	141	78	51	0	4	3	0
	ELKINS	39	23	49	14	31	-5	0.62	-0.19	0.28	0.62	90	49.06	113	88	53	0	7	3	0
	HUNTINGTON	45	32	57	27	39	-2	0.33	-0.44	0.17	0.33	50	54.83	138	77	50	0	3	3	0
WI	EAU CLAIRE	38	21	49	10	30	7	0.00	-0.30	0.00	0.00	0	23.01	73	84	50	0	7	0	0
	GREEN BAY	40	22	52	17	31	5	0.00	-0.41	0.00	0.00	0	30.10	107	87	56	0	7	0	0
	LA CROSSE	40	25	58	16	32	5	0.07	-0.29	0.05	0.07	23	22.32	71	82	47	0	7	2	0
	MADISON	41	23	58	15	32	4	0.09	-0.37	0.09	0.09	23	29.95	95	80	54	0	7	1	0
	MILWAUKEE	41	30	55	23	35	4	0.05	-0.52	0.04	0.05	10	20.34	61	71	55	0	5	2	0
WY	CASPER	46	24	51	8	35	9	0.02	-0.12	0.02	0.02	17	12.75	102	77	51	0	5	1	0
	CHEYENNE	45	22	57	5	34	5	0.00	-0.11	0.00	0.00	0	10.17	67	61	39	0	6	0	0
	LANDER	43	23	50	14	33	10	0.00	-0.15	0.00	0.00	0	9.63	74	82	62	0	7	0	0
	SHERIDAN	42	18	55	8	30	5	0.00	-0.14	0.00	0.00	0	12.03	85	86	64	0	7	0	0

Based on 1971-2000 normals

*** Not Available

NOTE: These data are preliminary and subject to change. In the past, precipitation totals from a number of stations have been incomplete.

November Weather and Crop Summary

Weather

Weather summary provided by USDA/WAOB

The Plains' poorly established winter wheat crop endured unfavorable conditions for much of November. Across the southern half of the Plains, mostly dry weather accompanied sharp temperature fluctuations, stressing wheat but favoring autumn fieldwork. Cold weather was more consistent on the northern High Plains, where a widespread, generally shallow snow cover provided wheat with some protection from periodic Arctic outbreaks. The snow also improved topsoil moisture on the northern High Plains but provided little relief from long-term precipitation deficits. Similar conditions were noted from the Rockies westward, where widespread precipitation boosted early-season snow packs and was beneficial for Northwestern winter wheat and other winter agricultural areas. However, the Western moisture provided little, if any, relief from the multi-year, hydrological drought across the Great Basin, Southwest, and Rocky Mountain States. In contrast, wet conditions persisted in the Pacific Northwest, primarily in and west of the Washington Cascades. Farther east, dry conditions persisted in the upper Midwest, but significant rain fell along and south of a line from Iowa (excluding the northwest part of the State) to Michigan. Wet fields in Michigan and elsewhere in the eastern Corn Belt slowed late-season corn harvesting but maintained adequate to locally excessive soil moisture for winter wheat. Meanwhile, autumn fieldwork neared completion from the Delta westward, where locally heavy, late-month showers aided pastures and winter grains. Mostly dry weather prevailed, however, in the southern Atlantic region, allowing winter wheat planting and cotton and soybean harvesting to proceed with few delays.

On the northern Plains, where monthly readings averaged as much as 11°F below normal, temperatures were suppressed by persistent snow cover and several cold outbreaks. Cool weather also prevailed in the West (as much as 5°F below normal), excluding the southern Rockies. In contrast, mild conditions were prevalent across the South and East, where readings generally ranged from 1 to 5°F above normal.

The month opened in the midst of a record-setting warm spell across the East. Monthly record highs were set or tied in locations such as Jackson, KY (82°F on November 4), Birmingham, AL (85°F on November 2), and Ft. Smith, AR (86°F on November 1 and 3). Baltimore, MD, noted a high of 81°F on November 1 and maxima of 80°F from November 3-5, doubling its 1982 record of 2 November days with temperatures of 80°F or higher. In Atlantic City, NJ, the maximum of 81°F on November 3 was its highest reading in more than 6 weeks, since the mercury reached 82°F on September 20.

One of the few snow storms to strike east of the Rockies affected parts of the northern Plains and upper Midwest from November 21-23. In Montana, Great Falls received 2.7 inches of snow of November 21, followed the next day by a low of -12°F. For the month, Great Falls' temperatures averaged 5.2°F below normal, accompanied by 8.5 inches of snow (115 percent of normal). High winds preceded Montana's most significant cold outbreak of the month on November 19, when Great Falls clocked a gust to 72 m.p.h. It was Great Falls' highest November gust since 1978. Days later, a minimum of -30°F on November 23 in Jordan, MT, was among the month's lowest temperatures. Remarkably, the cold snap followed a brief warm spell that had elevated Jordan's temperature to 68°F on November 19. In North Dakota, Williston reported sub-zero readings on 10 days during the month and experienced minima lower than 5°F on 20 November days. Williston's monthly average temperature was 15.0°F, 10.6°F below normal. Much milder conditions prevailed on the southern Plains, where Lubbock, TX, finally reported its first autumn freeze (22°F) on November 23. Lubbock's previous record had been established on November 22, 1931 and 1965.

Meanwhile, November 22-23 snowfall in South Dakota totaled 16.5 inches in Watertown and 8.0 inches in Huron. Elsewhere, storm totals reached 6.6 inches in Minneapolis, MN, and 4.0 inches in Valentine, NE. The storm also produced the majority of the month's measurable precipitation and snowfall on the central High Plains. For example, Denver, CO, netted 0.05 inch (2.9 inches of snow) for the month, 0.03 inch (2.8 inches of snow) of which fell on November 22. It was Denver's driest November since only a trace of precipitation was observed in 1949.

In contrast to the High Plains' dry pattern, periodically heavy rainfall soaked parts of the Midwest and East. November rainfall records were broken in at least a half dozen locations, including Charleston, WV (9.12 inches, or 249 percent of normal), and Grand Rapids, MI (7.90 inches, or 236 percent). Charleston collected 3.66 inches on November 11-12, recorded its greatest 24-hour total in November and marked its wettest 24-hour period since July 1961. Elsewhere, Madison, WI (7.49 inches, or 324 percent of normal), experienced its wettest November since 7.86 inches fell in 1934. Madison's large monthly sum was fueled by daily-record totals on November 2-4 and 23 (1.41, 1.96, 1.61, and 1.70 inches). High winds accompanied and trailed the passage of several fast-moving cold fronts across the Midwest and East. Toledo, OH, clocked a wind gust to 61 m.p.h. on November 12, followed the next day by a gust to 69 m.p.h. in Bangor, ME. Wind gusts in Providence, RI, topped 40 m.p.h. on November 13-14 and 28-29.

Between wind events, an energetic cold front sparked the month's most widespread severe thunderstorms and flooding.

On November 17-18, more than three dozen tornadoes were reported from the western Gulf Coast region into the Southeast, with the greatest concentration of damaging storms across southeastern Texas. Flooding struck on November 18-19 in already saturated areas of the central Appalachians and Mid-Atlantic States. Through November, year-to-date precipitation reached 61.14 inches (158 percent of normal) at Virginia's Dulles Airport, breaking its 1972 annual record of 59.05 inches. Meanwhile in Pennsylvania, Allentown (19.60 inches, or 172 percent of normal) completed its wettest September-November period, breaking the 1985 record of 18.43 inches. In contrast, the 1-year (December 1, 2002 - November 30, 2003) precipitation total in Kansas City, MO, stood at 24.27 inches (64 percent of normal). Similarly, year-to-date (January 1 - November 30) precipitation in Oklahoma City, OK, was 21.52 inches, or 63 percent of normal.

During November, at least 2 feet of rain fell at several Puerto Rican stations, headed by Naguabo (43.04 inches), Luquillo (31.24 inches), and Rio Grande (28.95 inches). A significant portion of the rain fell in a 6-day period ending November 14, totaling 25.62 inches in Naguabo and 16.99 inches in Rio Grande. For the week ending November 14, Puerto Rico's island-average rainfall of 9.73 inches was nearly seven times the normal. The November 12 high-water mark along Quebrada Guaba near Naguabo was the highest since September 21, 1998, when the crest was 3 inches higher. Meanwhile in Rio Grande, Rio Espiritu Santo also crested on November 12, climbing within 2.65 feet of the level achieved on August 22, 2001. In San Juan, PR, where monthly rainfall totaled 11.26 inches (182 percent of normal), it was the wettest November since 11.98 inches fell in 1992. November rainfall records were broken, however, in the U.S. Virgin Islands, where monthly totals reached 17.66 inches in Christiansted, St. Croix (previously, 16.98 inches in 1961), and 15.51 inches in Charlotte Amalie, St. Thomas (previously, 14.73 inches in 1984). The bulk of the Virgin Islands' rain fell from November 10-14, when totals included 14.15 inches in Christiansted and 9.82 inches in Charlotte Amalie.

Mild weather prevailed across the interior Alaska, especially early in November, helping to boost monthly temperatures as much as 8°F above normal. However, unusually stormy conditions also affected the mainland, resulting in many locations reporting 200 to 400 percent of the normal November precipitation. November snowfall totaled more than twice the normal values in locations such as Anchorage (28.8 inches), Fairbanks (27.6 inches), and Juneau (24.9 inches). In western Alaska, Kotzebue netted 44.0 inches during November, marking the snowiest month there during the last half-century (previously, 24.3 inches in November 1993).

By mid-November, typical seasonal showers replaced unusually dry weather across windward sections of Hawaii. On the Big Island, Hilo's monthly rainfall of 17.88 inches (115 percent of normal) was boosted by a maximum 24-hour total of 3.55 inches on November 15-16. Late in the month, torrential rains erupted on Oahu and in scattered locations elsewhere in Hawaii. On November 29-30, 24-hour totals on Oahu reached 13.20 inches in Luluku and 12.75 inches at the Wilson Tunnel. On Kauai, 3.41 inches of rain soaked Lihue on November 30, accounting for more than 70 percent of its 4.74-inch monthly total.

Fieldwork

Fieldwork summary provided by USDA/NASS

Temperatures averaged above normal across most of the eastern half of the Nation during November, though freezing temperatures reached as far south as the Gulf Coast. The southern and central Great Plains and southern Rockies had normal to slightly above-normal temperatures. Average temperatures were below normal in the Pacific Northwest, Southwest, and northwestern Corn Belt. In the northern and central Rockies and northern Great Plains, temperatures were well below normal, averaging less than 30°F in most areas. Precipitation was moderate in the Southeast, except along the southern Atlantic Coast, where dry conditions prevailed. Rainfall was also moderate across most of the Northeast, Ohio Valley, central Corn Belt, and Mississippi Delta, with pockets of heavy precipitation in the southern Appalachians and Louisiana. The Great Plains and Southwest had very little precipitation throughout the month. In the Rockies, snowfall was mostly light with a few pockets of heavier precipitation. Though rainfall was heavy in the coastal areas of the Pacific Northwest, crop-producing areas of the region had only light precipitation.

As of November 16, 95 percent of the corn crop was harvested, 3 percentage points ahead of last year at this time but the same as the 5-year average. Weather conditions were generally favorable for harvest across most of the major producing areas, and harvest progress was well ahead of normal across the northern Great Plains and in Colorado. Harvest was well behind normal in the eastern Corn Belt and Ohio Valley, despite rapid progress during the month. Progress was over 1 week behind normal in Indiana and Michigan.

The sorghum crop continued to lag behind normal during November. By midmonth, 95 percent of the crop was mature, compared with 99 percent a year ago and 100 percent for the 5-year average. On November 23, 88 percent of the crop was harvested, 1 percentage point behind last year and 8 points behind normal. In Texas, where much of the crop was planted late behind a failed cotton crop, maturity and harvest were 5 weeks behind normal. Kansas, New Mexico, and Oklahoma producers were over 1 week behind their normal harvest pace. Harvest was complete or nearly complete in all other States.

As of November 9, soybean harvest was 95 percent complete, 5 percentage points ahead of last year and 1 point of ahead of the 5-year average. Soybean harvest approached completion across most of the Corn Belt, ahead of the normal pace. However, harvest remained active in Kansas, Kentucky, Missouri, North Carolina, and Tennessee, where producers were well behind their normal harvest pace.

At midmonth, 95 percent of the peanut crop was harvested, compared with 86 percent a year ago and 92 percent for the normal. With little rain to slow fieldwork, harvest progressed rapidly early in the month. Harvest was at or near completion by midmonth in the Southeast and along the Atlantic Coastal Plain. Texas growers, at 80 percent, had made the least progress to that point but were ahead of their normal pace of 72 percent and well ahead of last year's 58 percent.

At the beginning of the month, 97 percent of the cotton crop had reached the bolls opening stage, slightly behind last year and the 5-year average of 98 percent. At that time, 55 percent of the crop was harvested, over 1 week behind normal. By November 23, the cotton harvest, at 78 percent complete, was still 1 week behind normal. Harvest progress steadily advanced, promoted by generally favorable weather conditions but trailed the normal pace due to the crop's late development and maturity. Missouri producers were 2 weeks behind their normal harvest progress, while six other States were over 1 week behind. Louisiana growers completed their harvest by midmonth, followed a week later by Mississippi producers. Both States finished ahead of their normal pace. Growers in Alabama and California also harvested their crop ahead of the normal pace.

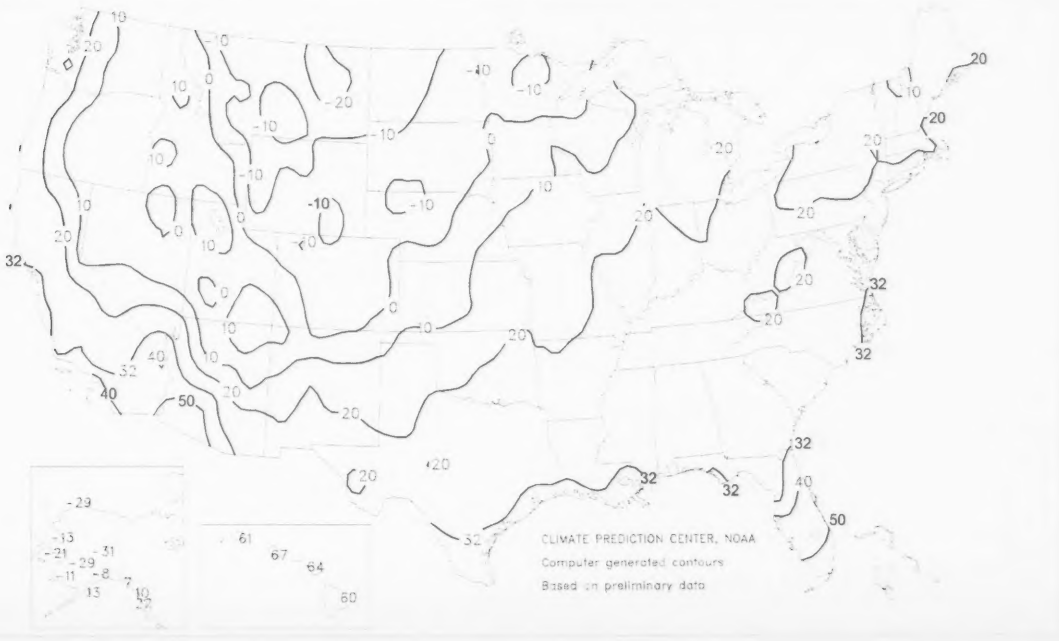
On November 9, 95 percent of the winter wheat acreage was planted, 3 percentage points above last year and the average. By November 23, acreage emerged, at 92 percent, was 1 point ahead of last year and 3 points ahead of normal. Most States began the month ahead of their normal planting pace, and by November 23, emergence was at or near completion throughout most of the Corn Belt and Great Plains. However, dry, cold conditions slowed emergence in the northern Rocky Mountains and Pacific Northwest. In some areas, cold weather brought on dormancy before emergence could be completed.

The sugar beet harvest was 97 percent complete on November 2, 5 percentage points ahead of a year ago and 4 points ahead of normal. North Dakota growers had completed their harvest, with Minnesota producers close behind, at 99 percent complete. Idaho and Michigan growers were well ahead of normal, with 90 and 94 percent of their crop harvested, respectively.

On November 9, the sunflower crop was 97 percent harvested, compared with 75 percent last year and 87 percent for the 5-year average. Harvest was well ahead of normal and nearly complete in the Dakotas and was 21 percentage points ahead of normal in Colorado. Kansas producers, however, continued to lag behind their normal pace.

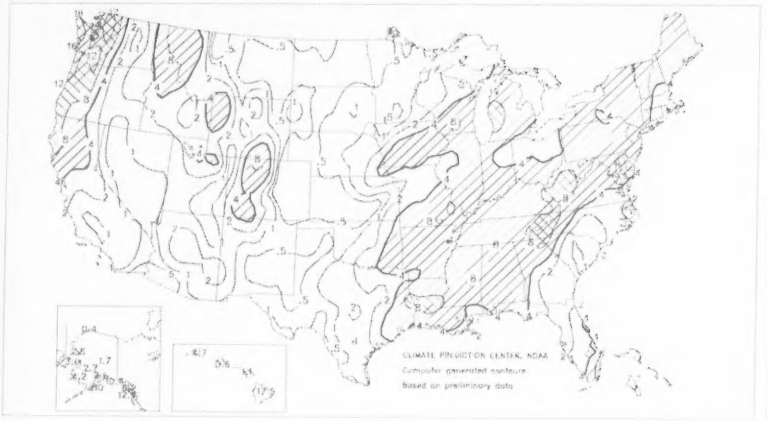
Extreme Minimum Temperature (°F)

November 2003



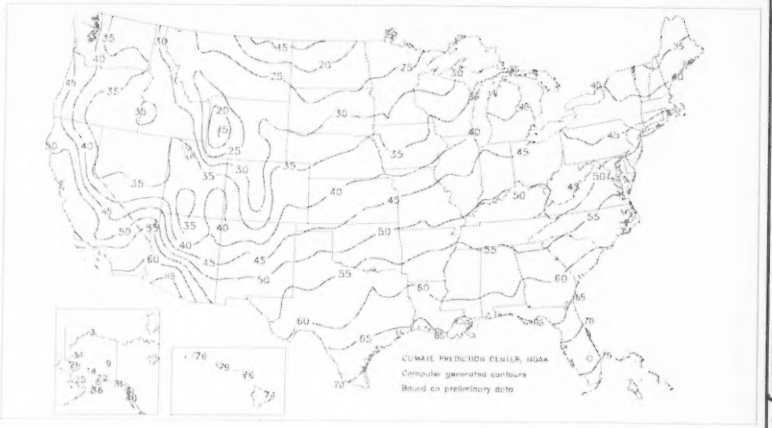
Total Precipitation (Inches)

November 2003



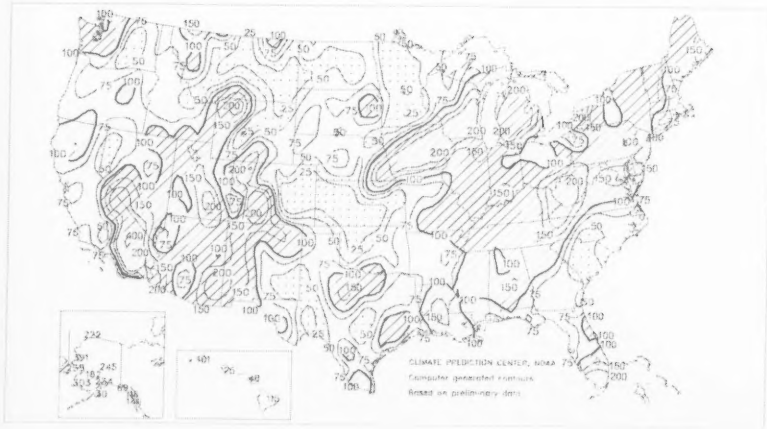
Average Temperature (°F)

November 2003



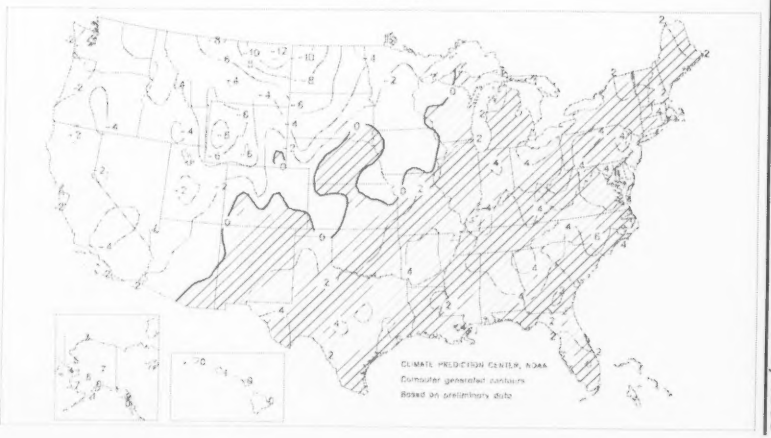
Percent Of Normal Precipitation

November 2003



Departure of Average Temperature from Normal (°F)

November 2003



TEMPERATURE AND PRECIPITATION SUMMARY
November 2003

STATES AND STATIONS	TEMP, °F		PRECIP.	
	AVERAGE	DEPARTURE	TOTAL	DEPARTURE
AL BIRMINGHAM	59	6	3.30	-1.33
HUNTSVILLE	56	5	5.78	0.56
MOBILE	63	4	3.70	-1.71
MONTGOMERY	60	4	3.99	-0.54
AK ANCHORAGE	22	0	1.62	0.53
BARROW	3	4	0.28	0.12
COLD BAY	37	2	4.11	-0.68
FAIRBANKS	9	7	0.00	-0.68
JUNEAU	31	-2	6.28	0.85
KING SALMON	27	4	3.00	1.46
KODIAK	36	2	2.09	-4.54
NOME	21	4	2.80	1.52
AZ FLAGSTAFF	36	-1	2.51	0.65
PHOENIX	62	0	0.74	0.01
TUCSON	59	0	1.04	0.37
AR FORT SMITH	54	3	4.65	-0.15
LITTLE ROCK	56	4	4.96	-0.77
CA BAKERSFIELD	55	0	0.35	-0.24
EUREKA	48	-3	4.27	-1.51
FRESNO	52	-1	0.44	-0.66
LOS ANGELES	60	-2	0.79	-0.34
REDDING	50	-1	6.11	2.08
SACRAMENTO	52	-1	1.57	-0.62
SAN DIEGO	61	-1	0.48	-0.59
SAN FRANCISCO	54	-1	2.22	-0.27
STOCKTON	51	-2	1.50	-0.27
CO ALAMOSA	32	4	0.59	0.11
CO SPRINGS	37	1	0.01	-0.51
DENVER	36	-1	0.04	-0.56
GRAND JUNCTION	37	-1	1.04	0.33
PUEBLO	39	1	0.04	-0.54
CT BRIDGEPORT	47	2	2.31	-1.34
HARTFORD	44	2	3.17	-0.89
DC WASHINGTON	53	4	4.24	1.21
DE WILMINGTON	49	3	3.46	0.27
FL DAYTONA BEACH	70	3	4.77	1.74
FT LAUDERDALE	76	2	7.36	2.79
FT MYERS	73	1	2.15	0.44
JACKSONVILLE	65	3	0.78	-1.56
KEY WEST	78	2	3.51	0.87
MELBOURNE	72	3	2.10	-1.02
MIAMI	76	2	6.63	3.20
ORLANDO	71	2	2.44	0.12
PENSACOLA	64	3	2.12	-2.34
ST PETERSBURG	72	2	1.63	-0.41
TALLAHASSEE	63	3	2.89	-0.97
TAMPA	71	2	0.87	-0.75
WEST PALM BEACH	75	2	6.92	1.37
GA ATHENS	57	4	3.96	0.27
ATLANTA	57	4	4.16	0.06
AUGUSTA	57	3	0.79	-1.89
COLUMBUS	61	4	3.06	-0.91
MACON	60	5	2.25	-0.97
SAVANNAH	63	4	1.68	-0.72
HI HILO	74	0	18.35	2.77
HONOLULU	79	1	0.50	-1.76
KAHULUI	76	0	0.85	-1.32
LIHUE	76	0	1.86	-2.84
ID BOISE	38	-2	1.09	-0.29
LEWISTON	39	-1	0.50	-0.71
POCATELLO	32	-3	1.05	-0.08
IL CHICAGO/O'HARE	42	3	4.45	1.44
MOLINE	41	2	2.79	0.06
PEORIA	43	3	3.41	0.42
ROCKFORD	39	2	3.63	1.00
SPRINGFIELD	45	3	4.87	2.00
IN EVANSVILLE	50	4	4.40	0.22
FORT WAYNE	44	3	2.43	-0.55
INDIANAPOLIS	47	4	3.69	0.08
SOUTH BEND	43	3	4.21	0.82
IA BURLINGTON	41	0	3.05	0.33
CEDAR RAPIDS	37	0	4.87	2.63
DES MOINES	38	0	5.32	3.22
DUBUQUE	37	1	5.95	3.46
SIOUX CITY	35	0	1.11	-0.29
WATERLOO	35	0	3.66	1.56
KS CONCORDIA	41	0	1.65	0.20
DODGE CITY	42	0	0.03	-0.98
GOODLAND	38	1	0.06	-0.76
HILL CITY	40	0	0.09	-0.65
TOPEKA	44	1	0.50	-1.81
WICHITA	46	2	0.12	-1.70
KY JACKSON	52	4	5.50	1.30
LEXINGTON	49	3	5.33	1.89
LONDON-CORBIN	50	3	4.90	1.00
LOUISVILLE	53	5	4.32	0.52
PADUCAH	51	4	5.20	0.67
LA BATON ROUGE	62	3	5.49	0.73
LAKE CHARLES	64	4	3.68	-0.93
NEW ORLEANS	66	5	6.15	1.06
SHREVEPORT	60	4	2.87	-1.81
ME BANGOR	38	1	4.19	0.50
CARIBOU	33	2	3.64	0.52
PORTLAND	41	3	3.07	-1.65
MD BALTIMORE	51	5	4.86	1.74
MA BOSTON	46	1	2.61	-1.37
WORCESTER	43	3	2.20	-2.14
MI ALPENA	37	2	3.08	1.00
DETROIT	44	3	2.60	-0.06
FLINT	42	4	5.67	3.02
GRAND RAPIDS	41	3	7.20	3.85
HOUGHTON LAKE	37	2	4.98	2.84
LANSING	41	3	5.61	2.95
MUSKEGON	42	3	6.30	3.07
TRAVERSE CITY	38	1	3.87	1.20
MN DULUTH	27	-1	0.94	-1.18
INT'L FALLS	22	-2	0.41	-0.95
MINNEAPOLIS	32	-1	0.73	-1.21
ROCHESTER	32	1	1.15	-0.86
ST. CLOUD	28	-1	0.41	-1.13
MS JACKSON	59	4	5.50	0.46
MERIDIAN	58	2	5.72	0.77
TUPELO	56	5	5.31	0.30
MO COLUMBIA	46	3	2.06	-1.41
JOPLIN	50	3	2.03	-2.03
KANSAS CITY	43	0	1.65	-0.65
SPRINGFIELD	48	2	6.00	1.54
ST JOSEPH	42	0	0.45	-1.71
ST LOUIS	49	4	5.35	1.64
MT BILLINGS	31	-3	0.32	-0.43
BUTTE	23	-4	0.27	-0.33
GLASGOW	20	-8	0.11	-0.28
GREAT FALLS	27	-5	0.19	-0.40
HELENA	29	-2	0.21	-0.27
KALISPELL	27	-4	1.00	-0.45
MILES CITY	28	-4	0.09	-0.43
MISSOULA	27	-5	0.91	-0.05
NE GRAND ISLAND	37	1	0.29	-1.12
HASTINGS	38	1	0.43	-1.03
LINCOLN	38	0	2.43	0.85
MCCOOK	39	1	0.28	-0.81
NORFOLK	36	1	0.96	-0.48
NORTH PLATTE	35	0	0.71	-0.05
OMAHA/EPPLEY	38	0	2.94	1.12
SCOTTSBLUFF	34	0	0.69	-0.11
VALENTINE	31	-2	0.31	-0.41
NV ELKO	33	-2	0.63	-0.42
ELY	31	-2	0.83	0.20
LAS VEGAS	53	-2	0.61	0.30
RENO	41	0	0.12	-0.68
WINNEMUCCA	34	-3	0.49	-0.31
NH CONCORD	40	2	2.07	-1.50
NJ ATLANTIC CITY	50	4	4.41	1.15
NEWARK	49	3	3.97	0.09
NM ALBUQUERQUE	46	2	0.49	-0.13
NY ALBANY	42	3	3.59	0.31
BINGHAMTON	41	3	2.90	-0.42
BUFFALO	43	3	4.10	0.18
ROCHESTER	42	2	4.29	1.45
SYRACUSE	42	2	3.17	-0.60
NC ASHEVILLE	51	5	3.91	0.09
CHARLOTTE	55	3	0.84	-2.52
GREENSBORO	54	5	1.65	-1.31
HATTERAS	62	4	1.41	-3.52
RALEIGH	56	5	1.33	-1.64
WILMINGTON	60	4	1.97	-1.29
ND BISMARCK	22	-6	0.16	-0.54
DICKINSON	21	-8	0.03	-0.56
FARGO	25	-2	0.07	-0.99
GRAND FORKS	20	-6	0.06	-0.93
JAMESTOWN	23	-4	0.09	-0.62
MINOT	19	-8	0.33	-0.53
WILLISTON	15	-11	0.58	-0.07
OH AKRON-CANTON	45	4	3.15	0.11
CINCINNATI	48	3	3.93	0.47
CLEVELAND	48	6	3.60	0.22
COLUMBUS	47	3	2.93	-0.26
DAYTON	46	4	3.89	0.59
MANSFIELD	44	4	3.02	-0.74
TOLEDO	45	5	2.00	-0.78
YOUNGSTOWN	45	4	3.00	-0.07
OK OKLAHOMA CITY	51	2	1.25	-0.86
TULSA	51	1	1.24	-2.23
OR ASTORIA	45	-2	9.84	-0.66
BURNS	31	-2	1.09	-0.02
EUGENE	43	-2	5.92	-2.52
MEDFORD	43	-1	2.57	-0.36
PENDLETON	39	-2	1.07	-0.56
PORTLAND	45	-1	4.14	-1.47
SALEM	44	-1	5.19	-1.20
PA ALLENTOWN	47	5	3.41	-0.29
ERIE	46	3	2.59	-1.37
MIDDLETOWN	48	4	3.00	-0.52
PHILADELPHIA	51	4	2.35	-0.81
PITTSBURGH	46	4	3.45	0.43
WILKES-BARRE	44	2	3.49	0.37
WILLIAMSPORT	45	4	4.50	0.88
PR SAN JUAN	80	0	11.53	5.36
RI PROVIDENCE	46	2	1.77	-2.63
SC CHARLESTON	62	4	0.83	-1.83
COLUMBIA	59	4	1.25	-1.63
FLORENCE	59	4	1.06	-1.53
GREENVILLE	56	5	3.65	-0.14
MYRTLE BEACH	60	3	0.00	-2.97
SD ABERDEEN	26	-3	0.46	-0.29
HURON	29	-2	0.41	-0.48
RAPID CITY	29	-4	0.50	-0.11
SIOUX FALLS	32	1	0.82	-0.54
TN BRISTOL	50	4	6.75	3.67
CHATTANOOGA	55	5	5.36	0.48
JACKSON	53	3	5.38	0.31
KNOXVILLE	53	4	4.81	0.83
MEMPHIS	56	4	5.07	-0.69
NASHVILLE	54	5	4.19	-0.26
TX ABILENE	56	2	2.51	1.21
AMARILLO	47	2	0.46	-0.22
AUSTIN	62	2	0.98	-1.70
BEAUMONT	64	3	2.95	-1.80
BROWNSVILLE	71	3	0.53	-1.22
COLLEGE STATION	63	3	3.94	0.76
CORPUS CHRISTI	68	3	0.78	-0.96
DALLAS/FT WORTH	59	4	3.17	0.60
DEL RIO	62	2	0.41	-0.55
EL PASO	55	2	0.52	0.10
GALVESTON	68	3	1.60	-2.04
HOUSTON	65	4	7.85	3.66
LUBBOCK	52	4	0.47	-0.24
MIDLAND	55	3	0.17	-0.48
SAN ANGELO	57	3	0.76	-0.34
SAN ANTONIO	63	3	0.34	-2.24
VICTORIA	66	3	3.56	0.92
WACO	61	4	1.40	-1.21
WICHITA FALLS	55	3	1.79	0.11
UT SALT LAKE CITY	37	-3	1.99	0.59
VT BURLINGTON	40	3	4.27	1.21
VA LYNCHBURG	51	4	3.66	0.48
NORFOLK	58	6	2.52	-0.46
RICHMOND	54	5	3.38	0.32
ROANOKE	52	5	3.85	0.64
WASH/DULLES	50	5	5.21	1.90
WA OLYMPIA	40	-2	8.72	0.59
QUILLAYUTE	42	-2	17.58	2.76
SEATTLE-TACOMA	43	-2	6.87	0.97
SPOKANE	30	-5	1.83	-0.41
YAKIMA	34	-3	0.11	-0.94
WV BECKLEY	48	5	6.73	3.85
CHARLESTON	50	4	8.59	4.93
ELKINS	45	4	5.00	1.58
HUNTINGTON	51	5	7.07	3.75
WI EAU CLAIRE	32	0	1.47	-0.45
GREEN BAY	36	2	4.57	2.30
LA CROSSE	36	1	2.23	0.13
MADISON	37	2	7.50	5.19
MILWAUKEE	40	2	3.91	1.21
WAUSAU	32	0	1.33	-0.87
WY CASPER	30	-2	0.32	-0.50
CHEYENNE	33	0	0.25	-0.39
LANDER	24	-6	0.07	-0.92
SHERIDAN	28	-3	0.67	-0.13

Based on 1971-2000 normals.

*** Not Available

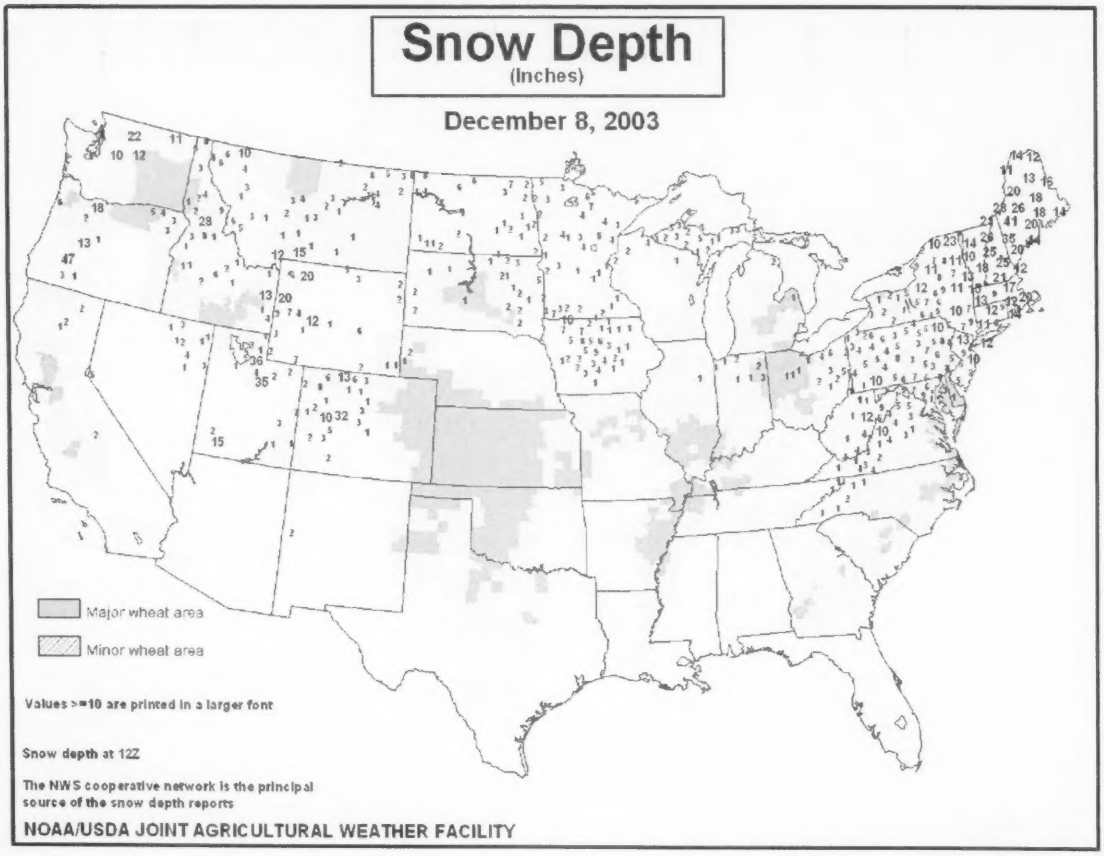
National Agricultural Summary

December 1 - 7, 2003

Weekly National Agricultural Summary provided by USDA/NASS

HIGHLIGHTS

Average temperatures were above normal across the western two-thirds of the Nation, extending into the central Corn Belt. Much of the Pacific Northwest, Rocky Mountains, northern Great Plains, and western Corn Belt averaged 6 degrees Fahrenheit or more above normal. However, snow continued to cover most of these areas, providing protection for winter wheat. On the Atlantic Coast, temperatures were 6 degrees Fahrenheit below normal. The Ohio Valley, Southeast, and Mississippi Delta also had below-normal temperatures. For the second week in a row, freezing temperatures reached as far south as the Gulf Coast. Precipitation was moderate in the middle Atlantic Coast States and the Northeast and was mostly snow. Most areas of the Southeast and Ohio Valley had light to moderate rainfall. Light precipitation fell across much of the Corn Belt but missed the northern part of the region. The Great Plains continued to have little or no rain, increasing stress on winter wheat. In the Rocky Mountains, conditions were mostly dry but with some patches of light rain or snow. Heavy precipitation fell in the coastal areas of the


Snow Depth
(Inches)
December 8, 2003
Major wheat area
Minor wheat area
Values >=10 are printed in a larger font
Snow depth at 12Z
The NWS cooperative network is the principal source of the snow depth reports
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

International Weather and Crop Summary

November 30 - December 6, 2003

International Weather and Crop Highlights and Summaries provided by USDA/WAOB

HIGHLIGHTS

EUROPE: Widespread rain continued to favor winter crop establishment across western Europe but caused local flooding in south-central France.

MIDDLE EAST: Winter grains were easing into dormancy in central Turkey, while widespread rain boosted moisture supplies for winter grain across western Iran and the eastern Mediterranean.

FSU-WESTERN: Above-normal temperatures provided mostly favorable overwintering conditions for dormant winter grains.

NORTHWESTERN AFRICA: Widespread rain continued to provide abundant moisture for winter grain planting and emergence in Algeria and Morocco, although locally heavy rain interrupted fieldwork in northern Morocco.

SOUTH AFRICA: Warm, dry weather dominated the corn belt, reducing moisture for summer crop germination.

EASTERN ASIA: Scattered showers boosted moisture reserves for winter crops throughout central China.

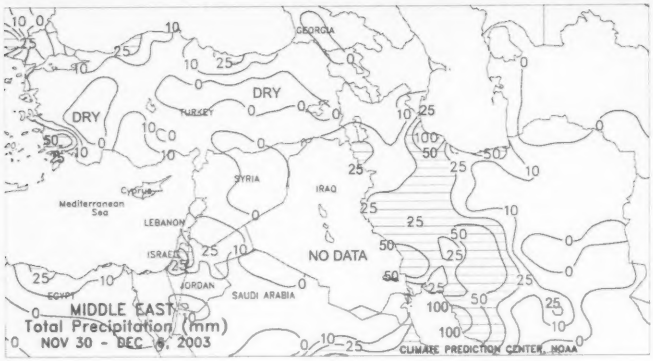
SOUTHEAST ASIA: Showers favored vegetative rice and corn in Indonesia.

AUSTRALIA: Mostly dry weather in western and southern Australia spurred winter grain harvesting and maintained crop quality, while wet weather in the east halted harvesting but aided summer crops.

SOUTH AMERICA: Beneficial rain soaked drought-stricken sections of western Argentina.

EUROPE

Across western Europe, widespread rain (15-60 mm) continued to boost soil moisture for winter grain and oilseed establishment. Rain during the past several weeks erased short-term moisture deficits across most of England. The rain was confined from the Low Countries and northwest Italy westward. Portions of northeastern France received lighter precipitation (less than 5 mm). From December 1 to 3, extremely heavy rain (50-150 mm, with isolated amounts greater than 200 mm) fell across south-central France (Massif Central), causing flooding across the lower Rhone and upper Loire River Valleys. While not major winter grain areas, vineyards and local winter grain fields were likely damaged. Moderate to heavy rain (30-80 mm) fell across Italy's western Po Valley, with the heaviest rain (over 100 mm) near the coast at Genoa. Elsewhere in central and eastern Europe, mostly dry weather prevailed as soil moisture levels remained adequate. However, Germany remained one of the driest areas, with rainfall during the past 4 weeks averaging 40 to 65 percent of normal. With winter dormancy approaching, soil moisture levels have little time to recover this autumn. Light to moderate rain (5-20 mm) increased soil moisture supplies for winter crops across Poland, Romania, and Bulgaria. Temperatures averaged 1 to 4 degrees C below normal across the Iberian Peninsula, 1 to 3 degrees C above normal across the rest of western Europe, and 3 to 5 degrees C above normal across central and eastern Europe. Despite the above-normal temperatures, the weather was cool enough for winter grains to be approaching dormancy in northeastern Europe and southern Germany. Mild weather during November has extended the autumn growth of winter crops in Germany and Poland, where the crop typically goes into dormancy by mid to late November.

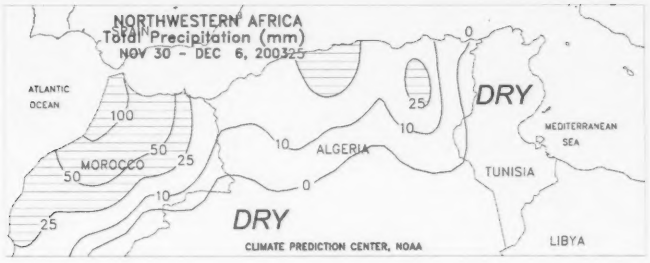


MIDDLE EAST

On the central Plateau of Turkey, seasonably cool, dry weather increased winter hardiness for winter crops nearing dormancy. In the western cotton areas, dry weather favored late harvesting, except for isolated heavy rain (20-75 mm) in southwestern Turkey. Light to moderate rain (5-25 mm) fell across the northern Turkish coast, favoring winter grain establishment. Across western Iran, widespread rain (15-40 mm) boosted moisture supplies for winter grain establishment. Light to moderate rain also probably fell across northern Iraq. Additionally, portions of the northeastern Arabian Peninsula received very unusual rains (10-80 mm). Moderate rain (10-35 mm) also boosted moisture supplies for winter grains in Lebanon, southern Syria, Israel, and Jordan. Temperatures averaged near normal to slightly above normal across western Turkey and theeastern Mediterranean and 2 to 4 degrees C above normal across eastern Turkey and western Iran.

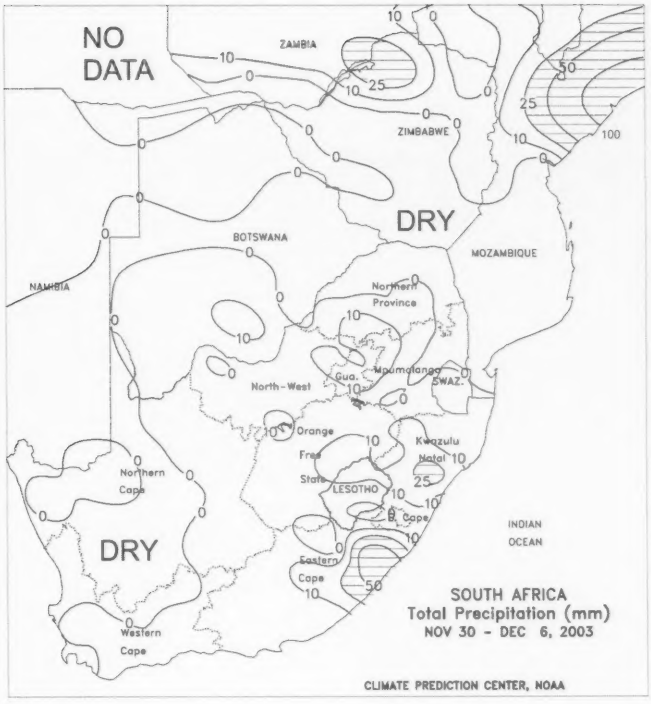
FSU-WESTERN

A dominant area of high pressure continued to bring mild, dry weather to most winter grain areas. Although the weather was cooler than last week, temperatures remained 1 to 5 degrees C above normal, providing favorable overwintering conditions for winter grains. Winter grains were dormant, except along the Black Sea Coast, where crops continued to add on vegetative growth. Dry weather continued to prevail over most of the region, helping late-season fieldwork in the south. At week's end, a strong cold front ushered in sharply colder weather and snow to the Baltics, Belarus, northern Ukraine, and the Central Region, increasing snow cover. Light rain (2-12 mm) fell from Ukraine eastward across the Southern Region in Russia. Winter wheat in these areas lacked a protective snow cover, leaving crops vulnerable to potential extreme cold.



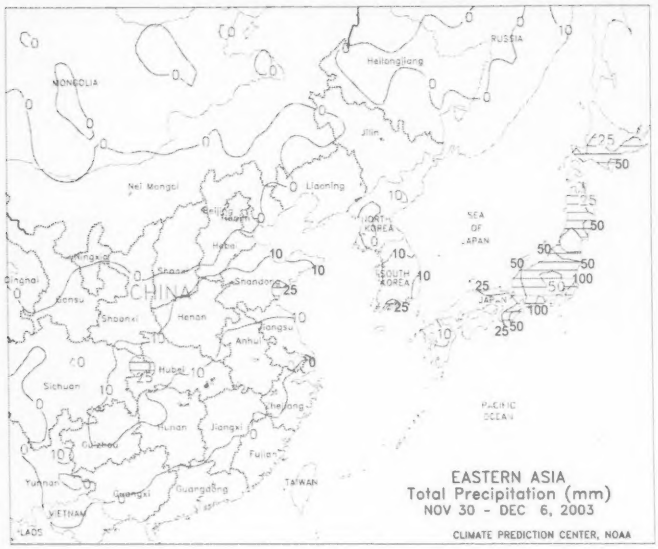
NORTHWESTERN AFRICA

Widespread rain (10-50 mm or more) covered Morocco and Algeria, maintaining adequate to abundant topsoil moisture for winter grain planting and germination. Heavier rain (50-125 mm) in northern Morocco delayed fieldwork and possibly washed out fields already being planting. In Tunisia, dry weather favored winter grain planting. However, below-normal rainfall during the past few weeks has reduced topsoil moisture for winter grain germination. Temperatures averaged near normal across Tunisia and 1 to 3 degrees C below normal across Algeria and Morocco.



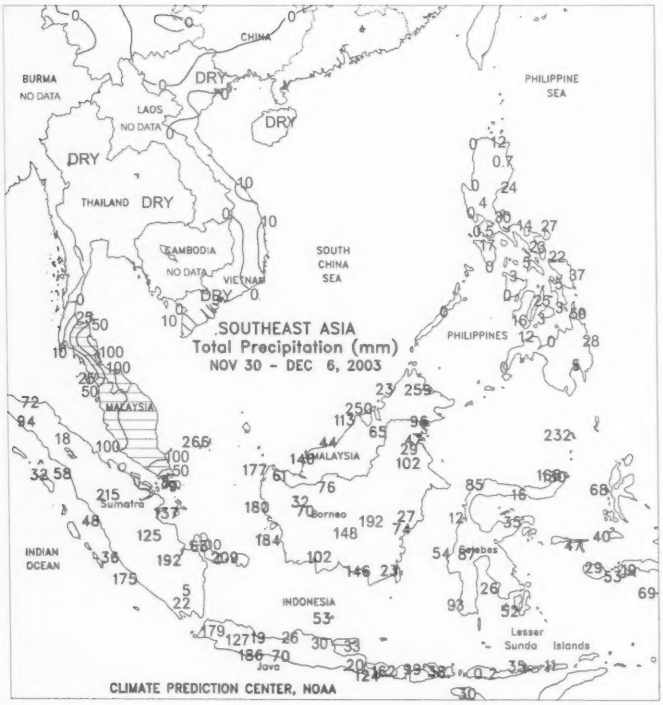
SOUTH AFRICA

Mostly dry, warmer-than-normal weather (highs mostly in the lower and middle 30s degrees C) dominated the corn belt, with just a few locations recording appreciable rainfall (greater than 10 mm). Planting of corn and other summer crops is typically in full swing by early December, but many areas, especially in the east (eastern Free State and southern Mpumalanga), have been drier than normal for much of the planting season and need much more rain for even germination and establishment. Drier conditions also prevailed in Northern Province, Western Cape, and western sections of Eastern Cape. However, moderate showers (10-25 mm or more) increased moisture levels for crops, including sugarcane, in southern KwaZulu-Natal and neighboring locations of Eastern Cape. Above-normal temperatures (highs commonly reaching the middle 30s degrees C) maintained unseasonably high crop moisture demands in the Cape Provinces.



EASTERN ASIA

Light to moderate showers (1-25 mm) increased moisture reserves for winter grain and oilseed establishment across a broad region from the Sichuan Basin northeastward to the North China Plain. Temperatures averaging below 5 degrees C helped to ease winter wheat into dormancy on the North China Plain, but crops were still vegetative elsewhere. Mostly dry, seasonably mild weather supported seasonal fieldwork in sugarcane areas of southern China. Elsewhere, light to moderate showers (less than 25 mm) covered South Korea and southern Japan, but heavier showers (25-50 mm or more) persisted in central and northern Japan, where lingering wetness has been unfavorable for seasonal fieldwork.

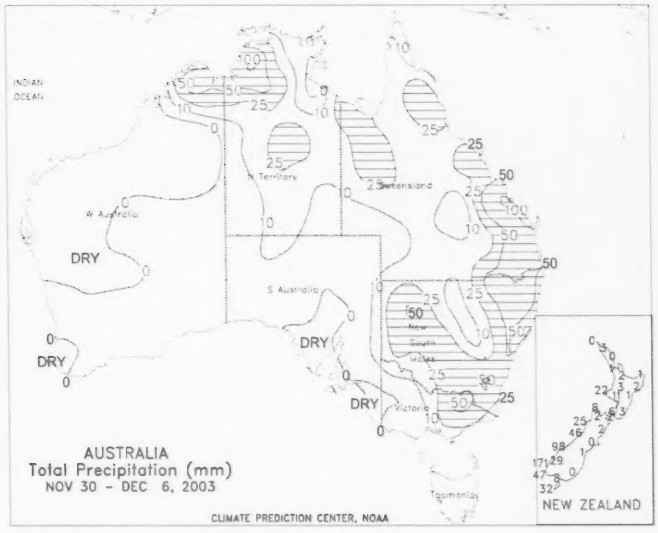


SOUTHEAST ASIA

Light to moderate showers (10-50 mm) fell throughout most of Java, Indonesia, boosting moisture supplies for vegetative rice and corn. Mostly dry weather (rainfall less than 10 mm) prevailed throughout the Philippines, where irrigated rice and corn were in the vegetative stage. Seasonably dry weather continued over irrigated crop areas in Indochina. Heavy showers (50-200 mm) increased moisture supplies for oil palm and other plantation crops in peninsular Malaysia and Sumatra.

SOUTH AMERICA

Widespread, moderate to heavy rain (25-50 mm, locally exceeding 100 mm) covered most primary crop areas of Argentina, including Cordoba, which recorded its first significant rain of the growing season. While unfavorable for maturing winter wheat, the moisture was welcomed for summer crop germination and establishment. The rain also helped to lower temperatures to more seasonable levels, with highs generally in the lower 30s degrees C in most major grain and oilseed areas. According to Argentina's Agricultural Secretariat (SAGPyA), prior to the beneficial rainfall, corn, sunflowers, and soybeans were 52, 7, and 19 percent planted, respectively, as of November 28 in Cordoba, reflecting the impact of the regional drought. In Brazil, widespread, locally heavy rain (25-50 mm or more) covered primary soybean, coffee, and citrus areas, including previously drier locations of the northeast (Goias, Minas Gerais, and Bahia). The exception was Rio Grande do Sul, where rainfall totaled less than 25 mm, but moisture reserves are generally favorable for early summer crop development following recent weeks of ample rainfall. Temperatures continued to average near to above normal, with highs frequently in the lower to middle 30s degrees C. According to independent analysts from within Brazil, soybeans were 84 percent planted as of December 8, slightly ahead of last season's pace.



AUSTRALIA

In Western Australia, mostly dry weather (mostly less than 5 mm) maintained winter wheat and barley quality, reportedly considered good throughout most of the region, and enabled harvesting to advance with little delay. Similarly, the 2nd consecutive week of mostly dry weather (mostly less than 5 mm) in South Australia and western Victoria spurred winter grain harvesting. Winter grain quality has remained good in these regions where below-normal November and early-December rainfall helped maturation. In contrast, widespread, locally heavy rain (15-80 mm or more) in eastern Victoria, New South Wales, and Queensland delayed fieldwork but aided vegetative summer crops. The heaviest rain (30-80 mm, locally near 110 mm) fell across drought-plagued summer crop areas, boosting reservoir levels for irrigated cotton and improving soil moisture for dryland crops such as sorghum. Although the rain delayed fieldwork, winter grain harvesting in the north was nearing completion prior to the rainfall. Farther south, widespread rain halted most harvest activities. Temperatures in major Australian crop-producing areas were generally seasonable, except in eastern Victoria and southern New South Wales, where temperatures averaged about 2 to 3 degrees C above normal.

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